

## Development Of Pop Up Book Media Sub Theme Technology Development Of Clothing Production To Train Writing Skills In Class III Elementary School Students

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**Abstract:** In the development of this Pop Up Book media using 7 procedures, namely potential and problems, from the results of potential and problems then the researcher conducts and makes a data collection, from the data collection the researcher makes a design design that will be validated by media experts and if there is a revision it will be corrected immediately, after that it will be tested, if there are still deficiencies it will be revised again so that the resulting product is ready to be used in learning. The development of this Pop Up Book media aims to train the writing skills of third grade elementary school students. Research and Development (R&D) is the method that will be used in this research by using pretest-posttest. In this study, the subjects used were third grade students in the 2021/2022 academic year, totaling 14 students as controls and 14 students as experimenters. Learning outcomes after using Pop Up Book media obtained the final results online for each class, namely in the control class, namely 47%, which is stated in the control class is included in the category of "Less Effective" class with conventional learning methods or lectures. Furthermore, the experimental class is a class that uses a learning method using top-up book media, a score of 86% is obtained. This proves that the Pop Up Book used as a medium at SDN WAGE 1 Class III after learning by utilizing the Pop Up Book learning media is stated in the criteria "Effective".

**Keywords:** Pop Up Book; Development of clothing production technology; writing skills

the ability of each student in academic terms is different, so students need education that is appropriate to the age and ability of students. Education cannot be separated from human life. The existence of human education carries out learning activities that will gain knowledge as well as experience about abilities and behavior with the interaction or communication between individuals and their environment. Learning activities can be implemented if there is interaction between teachers and students. Teachers who can change student behavior can be said to be successful. The behavior of students can be changed by physical, emotional and mental activity (Leist, Bar-Haim, & Chauvel, 2021).

Based on the Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System article 1, it is explained that in order to create a learning atmosphere and learning process, it must be carried out consciously and planned so that students are active in developing their potential in the spiritual field of religion, intelligence, personality, noble character, and skills needed for himself, society, nation and state (RI, 2020). Every child of the nation has the same right to receive education. There are two kinds of education, namely formal and non-formal. A person's potential can be developed through education, with the aim of becoming a strong individual because he has skills, intelligence and a noble personality (Stenberg, 2022).

According to Dewi & Rahmawati (2018), students can learn real knowledge by using the environment as a learning resource. Meanwhile, one way to produce outstanding students is with teachers who have the qualifications and competencies in developing their professionalism (Sholichah, Rahmawati, & Dewi,

2022). The teaching and learning process is required to make it easier for students to accept subject matter so that concrete media is needed that is appropriate to their learning environment. Selection of learning media can affect the results of student learning. To choose the media, indicators between relationships and the uniqueness of learning are needed so that students don't feel bored and can receive an impressive learning process. Therefore uniqueness is also needed. In addition, understanding of the media that will be made also influences the results of the media so that it is effective in the learning process.

Based on field data obtained by researchers from interviews with a class III teacher named Mrs. Agus Setyowati Devita Proklamasari, S.Pd at SDN Wage 1 Sidoarjo Regency on January 4 2021, it was revealed that the problem experienced in the learning process in class was students' writing skills which still lacking. Students are more likely to be silent or passive in learning and rely more on orders from the teacher. In addition, students find it difficult to understand some of the material because it is too much and is constrained by the use of media that is too simple and perfunctory, which makes students feel bored. Textbook media that are already available in schools are more often used by teachers than teachers making their own media. While the textbooks used are still lacking. Textbooks that should be used to assist teachers in providing thematic learning instead must make teachers have to look for reinforcement of other material. In textbooks, the presentation of material is too simple so that it does not attract students' interest in learning. So, one way to deal with the problem is to make learning references to help thematic learning activities. The media used should be able to increase student interest in learning, especially in writing skills, and help teachers deliver material more easily. Based on these problems, there must be a new breakthrough to make media more interactive, one of which is Pop Up Book media.

Pop Up Book media is also easier to carry and easy to use. The appearance of Pop Up Books in the form of two-dimensional and three-dimensional art when the book is opened can make students more enthusiastic about learning and the media can be used for group or independent study. According to Sadiman (2010), media in the form of interesting pictures or photos can better show the subject matter than using mere verbal media. Pop Up Book learning media is one of the media with special characteristics, namely books in the form of paper folds and when the book is opened it will form a three-dimensional appearance so that it makes an attractive impression on students (Murniati & Anitra, 2019). Media pembelajaran visual yang menarik diharapkan dapat menambah rasa ingin tahu dan meningkatkan pengetahuan siswa. Teachers in teaching and learning activities have many roles. One of them is as a developer in making learning media (Arip & Aswat, 2021).

Several studies related to the use of Pop Up Book media have been carried out. One of the studies was conducted by Loliyana, Anggraini, & Efendi (2022), where the study was carried out with experiments in class I of elementary school. The results of the study showed that there was a positive influence on the use of Pop Up Book media in improving students' reading and writing skills. The reading skills of the experimental class students were 74.815 greater than the control class's 72.080 with a difference of 3.735. The writing skill of the experimental class was 70.528 which was greater than the control class's 60.604 with a difference of 9.888. Another study was also carried out by Ningsih, Julida, & Sari (2021) with a quasi-experimental research type, which obtained the result that the average value of the experimental class was 18.35 while the control class was 15.7. Based on the results of the hypothesis, it is known that Pop Up Book media has a significant effect on students' reading skills.

The research was conducted to carry out development, feasibility studies, and students' writing skills using Pop Up Book media, Theme 7 Sub-theme 2 "Development of Clothing Production Technology" Class III of Wage 1 Elementary School and with the Pop Up Book media, it is hoped that it can help teachers in teaching and learning activities to reduce learning difficulties and facilitate students in receiving learning material.

## METHODS

This research was conducted using the Research and Development (R&D) method. The goal of R&D research is not to formulate or test theory, but rather to develop more effective outcomes for implementation in schools. Based on Sugiyono (2016) there are 10 steps in media development, but researchers only use seven procedures namely, from the results of potentials and problems, researchers carry out and make data collection, the design will be validated by media experts and if there is a revision it will be corrected immediately, after that will be tested. If there are still deficiencies, the author will revise it so that the resulting product is ready for use in learning. The research flow used in this study is as follows:

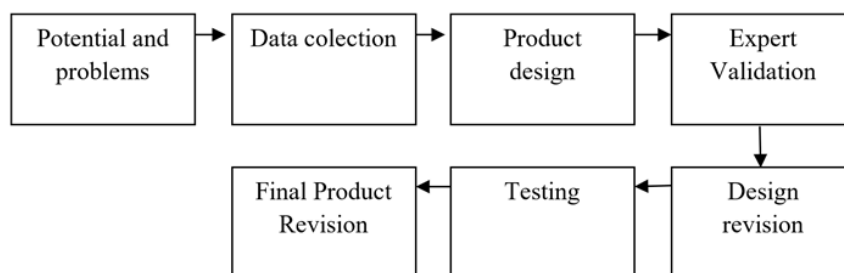


Figure 1. Sugiyono's R&D Research Flow

This research focuses more on development steps or uses procedural or descriptive models. The design used is the experimental design and the control group (pretest-posttest control group design). The research instrument used interviews to obtain information on the application of learning, questionnaires for the basis of media validation and assessment, as well as tests to obtain data on the effectiveness of the media on students' writing skills. The calculation formula until the media is declared fit for use is as follows:

$$\text{Eligibility percentage (\%)} = \frac{\text{Total score}}{\text{Total of all items}} \times 100\%$$

Table 1 Material and Media Quality Values

Qualitative Criteria	Score
Very Good	5
Good	4
Acceptable	3
Poor	2
Very Poor	1

## RESULTS AND DISCUSSION

### Research result

#### Potential and Problem Analysis

Problem analysis before carrying out media development is a step that must be taken, namely looking for existing problems.

#### Potential Analysis

This potential analysis will be divided into three types, namely potential analysis on learning materials, learning media and writing skills. Regarding the potential for writing skills, the facilities and infrastructure available at Wage 1 Elementary School are adequate which can support writing skills in learning. Then in the analysis of the potential of learning materials, there is the potential for teachers who are adequate and competent in providing material. Next is the potential of teacher learning media which actually uses Pop Up Book learning media, but due to lack of time and constraints on media

materials, teachers have not developed it. From some of these potential problems it can be decided that Pop Up Book media is chosen.

### **Problem analysis**

From the interviews conducted by researchers, there are several results. First, the material being taught is difficult for some students to understand so that some students have less than optimal grades. This also affects students' writing skills in learning, where based on the results of interviews with students, some students are too lazy to take notes on the material presented by the teacher because the teacher uses the lecture method which causes students to feel bored and bored. Then, in learning media there are also several problems that hinder the learning process and the use of learning media, including regarding the completeness and availability of learning media that are still lacking. In addition, some teachers also experience difficulties in making learning media due to time constraints. Furthermore, teachers who are less innovative in using media are also a problem. Teachers more often or only use textbooks.

### **Data collection**

After analyzing the potential and problems, the results will be used for media development. The data collected is in the form of information about what material will be published in the media by taking into account basic competencies and core competencies. After collecting data and information, the researcher found the basis for group learning. According to Daryanto (2016) for group learning, the media used must be large, both in writing and pictures. It is intended that students can see the material clearly. This is the reason or basis for researchers in making Pop Up Book media. The elements that must be fulfilled in making visual media are attractive, easy to read, color, balance and arrangement between pictures and writing (Smaldino, 2011). The other elements that must be fulfilled in making a Pop Up Book are the position of the images that form an angle of 90° and 180°.

### **Product Design**

There are two steps in making a Pop Up Book design. The first is compiling the material and the second is compiling the appearance of the image. The first step is to arrange the material by making a storyboard. The second step is to arrange the image display that will be used in the media or what is called a flowchart. Furthermore, in compiling the material the researcher uses Theme 7 Sub-theme "Development of Clothing Production Technology" as the material used for the development of this media. Researchers determine aspects of writing skills that will be described by researchers as follows:

### **Preview of the product**

In accordance with the concept developed, the pop up media developed is rectangular like a book in general with A4 size and on the outside it consists of the front which consists of the cover, preface and table of contents.

### **Front page or cover**

The front page or cover of the Pop Up Book is made using the basic material of hard cardboard paper covered with 310 gram ivory paper which has been laminated. On the front cover page, there are pictures of buildings as the background and attractive color combinations. Then there is a title on the front cover page of the Pop Up Book media along with a material description of the development of clothing production technology for class III semester 2.



Figure 2. Front Cover Pag

### Preface and Table of Contents

This section uses material made of 310 gram ivory paper with the size of the pop up section for the table of contents and preface, which is 31 cm x 47 cm. The preface and table of contents are made using an illustration background of a building with a mountainous and cloudy atmosphere that is interesting to present.



Figure 3. Preface and Table of Contents Page

### Content

The contents or learning materials are made using glossy paper as the basis. The material is made as attractive as possible by making the pictures move when the book is opened. Interesting pictures and exercises that can be drawn will increase students' learning motivation for writing skills. The following are some images of the contents of the Pop Up Book media material that has been made.





Figure 4. Content Material

### Expert Validation

The Pop Up Book media validation test will be carried out by two class teachers and two media experts. Media validation aims to find the advantages and disadvantages of the Pop Up Book media that has been made. This validation will be used as a basis for improving the Pop Up Book media.

### Linguist Validation

The first validation was given by Elementary School Teacher Education lecturer Mrs. Galuh Kartika Dewi, S.Pd., M.Pd as a linguist. The aspects assessed in the language validation test include the appearance and content of the media, both in the presentation of the material and how it is used. Linguist validation got a total score of 63 with an average value of 4.2 which is in the good category, if included in the conversion scale. According to linguists, Pop Up Book media is very useful for learning media, especially for improving students' writing skills.

### Learning Media Expert Validation

Media validation was also carried out by media experts who are also Elementary School Teacher Education lecturers. In the results of the validation test, a score of 60 was obtained with an average of 4. Thus the results obtained from the conversion scale were in a good category and feasible to be developed for the benefits of a medium and worthy of being tested in research without any revisions.

### Validasi Guru Kelas III

Pop Up Book product validation is given by a certified class III teacher. The validation test was carried out by two teachers, namely Mrs. Agus Setyowati with a total score of 69 and an average of 4.6. He as the first teacher validation test stated that the product was feasible to be tested without any revisions. Then trials were also carried out on Mr. Widarsono with a total score of 70 and an average of 4.6. Based on the results from the field trials that have been carried out by the two third grade teachers, it can be seen that the products that have been made are feasible to be tested in learning activities with very good media categories.

### Design Revision

At this stage, revisions were carried out based on feedback and comments provided by the four examiners. Based on the validation test from the experts, the development of the Pop Up Book carried out by the researchers showed that no revisions were made because all the feedback from the examiners had no improvements to be made.

## Product Trials

From the results of the validation obtained from linguists, media and teachers who already have certification, the product will be tested to determine its feasibility level in grade III elementary school, which has a total of 14 students. This trial was carried out directly in the post-test class. At this stage, the researcher obtained quantitative data, where students were provided with questions and asked to work on them and then saw the results after using the product. Comparisons were made to students in two classes, namely the experimental class and the control class. The experimental class will use Pop Up Book media and the control class will not use Pop Up Book media or use lecture method learning.

The feasibility of Pop Up Book media on the Sub-theme of Loving Plants for elementary school students is said to be feasible after receiving validation from several experts with the following results:

**Table 2. Validator Recapitulation Results**

No	Validator	Average	Criteria
1	Linguist	4.2	Good
2	Media Expert	4	Good
3	Teacher I	4.6	Very Goofd
4	Teacher II	4.6	Very good
TOtal		17.4	
Percentage		4.35	
Criteria		Very Good	

Based on the results of the table above, it can be concluded that the recapitulation results for Pop Up Book media quality from the results of media validation submitted by the validator, namely linguists with a score of 4.2 are included in the “good” category and a score of 4 is given by media experts in the “Good” category . Whereas the class III teacher who acted as a field validator and material gave the same score of 4.6 which was included in the “Very Good” category. From the overall results obtained an average score of 4.35 with the results of the “Very Good” category. Based on the results of product validation for the media being developed, namely Pop Up Book, it was found that the media that was made was feasible to try out and had good quality.

Students’ writing skills after using Pop Up Book, especially grade III students at Wage 1 Elementary School, are said to be successful because the posttest results have increased compared to before students used Pop Up Book media. The following are the results of the pretest and posttest:

The results of the product trial tests given to 14 students are described as follows:

**Table 3. Control Class Test Results**

No	Name	Pre Test	Pos Test
1	AW	40	55
2	AC	20	35
3	AP	60	75
4	AF	60	75
5	AD	60	75
6	AR	20	35
7	AZ	15	30
8	BB	15	30
9	CA	60	80
10	DP	65	80
11	MD	60	75
12	MF	55	70
13	MAL	60	75

No	Name	Pre Test	Pos Test
14	MAF	30	45
average		44	60

#### Source of Primary Data Processing 2022

Based on the data above, then to determine the level of effectiveness of the learning carried out, calculations are carried out using the N-Gain formula as follows:

$$\begin{aligned} \langle g \rangle &= \frac{\text{skor posttest} - \text{skor pretest}}{\text{skor maksimal} - \text{skor pretest}} \\ \langle g \rangle &= \frac{60 - 44}{80 - 44} \\ \langle g \rangle &= \frac{16}{34} \\ \langle g \rangle &= 0.47 \end{aligned}$$

Based on the calculations that have been done, the results obtained from the comparison of the experimental class and the control class are 0.47 or 47%. This proves that the learning method used at Wage 1 elementary school before using Pop Up Book media was still stated in the "Less Effective" criteria. Then the researcher gave tests to the experimental class that had used Pop Up Book media during learning and the comparison could be seen after being given the Pop Up Book learning method. The following are the results of the experimental class:

**Table 4. Experiment Class Test Results**

No	Name	Pre Test	Pos Test
1	MMI	55	85
2	MAI	35	80
3	MRF	60	100
4	NFN	65	100
5	NA	70	100
6	PLS	40	100
7	RFA	40	90
8	RDF	35	100
9	RS	65	95
10	RN	65	90
11	SE	60	100
12	SR	55	85
13	YR	60	100
14	ZZ	50	90
average		54	94

#### Source of Primary Data Processing 2022

Based on the data above, then to determine the level of effectiveness of the learning carried out, calculations are carried out using the N-Gain formula as follows:

$$\begin{aligned} \langle g \rangle &= \frac{\text{skor posttest} - \text{skor pretest}}{\text{skor maksimal} - \text{skor pretest}} \\ \langle g \rangle &= \frac{94 - 54}{100 - 54} \\ \langle g \rangle &= \frac{40}{46} \\ \langle g \rangle &= 0.86 \end{aligned}$$

Based on the calculation above, the comparative value, namely the experimental class, is 0.86 or 86%. This proves that the Pop Up Book used as a learning medium at SDN Wage 1 elementary school class III when expressed in qualitative data using a Likert scale includes the “Effective” criterion.

## Discussion

*Pop Up Book* is synonymous with children and toys, however, it can be used as a learning medium that can stimulate children’s skills. In this study, the *Pop Up Book* media contained 3D images with 90° and 180° shapes. In making the image design, the researcher used Adobe Photoshop. One of the important things in the development of this media is color. The choice of color can affect the response you want to get. The researcher chose cool colors, namely green, white, blue as the background, red, brown, and black which are called hot colors because these colors match very well with cool colors so that they can make the reader focus on the object.

Pop Up Book media is made using ivory type paper and for book covers using hardcover. The choice of ivory paper is because it is not easily damaged so it can last long term. The Pop Up Book media that has been created contains 15 pages consisting of preface, table of contents, instructions for use, basic competencies, content material, practice questions, developer profile and bibliography. In discussing the material, there are several pictures. The 3D images are focused on images of clothing production technologies. There are also some practice questions such as let’s write, let’s read which are on the side of the book which can be pulled out and put back in. This makes students curious about the contents, so that students are motivated to see and do what the instructions are according to the instructions in the book.

Based on the results of the validator recapitulation of the four validity, a percentage of 4.35 was obtained with very good criteria. The results of testing the effectiveness using N-Gain obtained the value of each class, namely in the control class, which was 47%, which stated that the control class was included in the “Less Effective” category, class with conventional or lecture learning methods. Furthermore, in the experimental class, which is a class that uses the learning method using Pop Up Book media, the score is 86%. This proves that learning using Pop Up Book media in Class III SD is stated in the “Effective” criteria. This means that learning using Pop Up Book media is effective for training the writing skills of third grade elementary school students.

The combination of attractive colors and images in Pop Up Book media attracts students, so they are encouraged to explore further the material presented and have an impact on improving writing skills. This is in line with the study conducted by Ilham & Aidin (2021), who obtained the result that the application of the Pop Up Book was able to make significant changes to students’ storytelling skills. This can be caused because the Pop Up Book media offers surprises in it that require students to imagine and attract students’ attention, so that it can stimulate students to keep trying to write. Writing skill is the ability that students have in using language, expressing ideas, thoughts and feelings to others in written language (Andersen, Nielsen, & Rowe, 2022; Kim, Yang, Reyes, & Connor, 2021).

This is reinforced by a study conducted by Johan (2020) which proves that the use of Pop Up Book media has a significant impact on increasing students’ writing skills. This is also reinforced by the opinion of Bluemel & Taylor (2012) where the use of Pop Up Books includes developing a child’s love for books and reading, for early-age students it can bridge the relationship between real life situations and symbols that represent it, for older and gifted students it can develop critical and creative thinking skills, to develop critical and creative thinking skills, and can help students capture meaning through attractive image representations.

## CONCLUSION

Based on the results of the calculation of the Normalized Gain formula, the final result for each class is obtained in the control class of 47%, where the control class is included in the “Less Effective” category in classes with conventional or lecture learning methods. Furthermore, in the experimental class, which is a class that uses the learning method using Pop Up Book media, the score is 86%. This

proves that learning using Pop Up Book media in Class III is stated in the “Effective” criteria.

As for suggestions for the future, teachers in elementary schools are advised to start their own development of Pop Up Book learning media according to the material and needs of students, in order to achieve learning goals.

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