



# Scrapbook Media Development to Improve IPAS Learning Outcomes

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**Abstract:** The lack of maximum use of learning media due to the limited ability of teachers in creating learning media resulted in students being bored and unfocused, resulting in 17 students out of 27 fourth grade students of SD Bumiayu 01 Pati Regency scoring incomplete on IPAS subjects. This is the background for researchers to create scrapbook learning media as a media tool in learning with the hope of overcoming the problems that occur. Scrapbooks are books with attractive images that are tailored to the subject matter and can be accessed flexibly. The validity test results received a score of 84% by media experts and 93% from material experts. From the results of data analysis obtained, this scrapbook learning media proved to be effective in improving learning outcomes. This statement is evidenced by the acquisition of the paired sample t-test value of 0.00 which means  $<0.05$ , meaning that there is a difference in the average pretest and posttest scores. In the N-Gain test getting a value of 0.6291 medium category. So it is concluded that there is an increase in the average IPAS score from 50.8 to 80.5 by students after using the media implemented in learning.

**Keywords:** Learning outcomes; Science; Scrapbooks media.

## Introduction

Education is very important for every country because it has a role in the welfare of the country. Humans and education are one unity that goes hand in hand (Balqis & Andriani, 2024). Every human being has the right and obligation to receive education, both formal and non-formal (Rahayu & Wulandari, 2024). Khairunnisa & Wulandari, (2025) added, to produce quality children of the nation, helping to maximize their skills and knowledge can be done through education. Education is regulated in a curriculum. The achievement of learning objectives occurs because of the curriculum that regulates the implementation of teaching and learning activities (Abidin et al., 2023; Martin & Simanjorang, 2022). Furthermore Monoarfa & Haling (2021) said, to improve the quality and quality of education can be done with learning innovation, one of which is the renewal of the education curriculum. The

independent curriculum is the curriculum that is currently being implemented (Darnawati & Yulianto, 2024). There is a slight change in the independent curriculum in elementary schools, namely that there are science subjects or what are called natural and social sciences (Prihantini et al., 2024; Sofiantari & Astuti, 2024). In the independent curriculum, the aim of having IPAs is to enable students to see the relationship between the natural and social environment simultaneously (Luh & Suastra, 2024). Teaching science in elementary schools is necessary considering that the material studied will be deepened at the next level.

However, in reality, there are still problems in learning science which are also found in Bumiayu 01 Elementary School, Pati Regency. Through observation and interview activities at SDN Bumiayu 01, Pati Regency, various problems were found in learning science. One of them is that students still have difficulty or do not understand one of the science materials,

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namely the Wealth of Indonesian Culture because of the breadth of the material, the amount of material that needs to be understood and memorized. Moreover, the use of learning media that is less varied by teachers due to limited ability to create media. Teachers only use textbooks to explain the material on the Wealth of Indonesian Culture so that students are increasingly not enthusiastic when learning and not focused which has an impact on low student learning outcomes. In fact, teachers are required to create active learning (Parker et al., 2022). Monteiro et al., (2021) also stated the same thing, the effort to create fun activities in the classroom is the teacher's job. In addition, it was found that the evaluation of the completion of student learning outcomes based on daily test scores showed that out of a total of 27 students, 17 students had not completed achieving the KKTP or it can be said that 63% of students did not reach the minimum score limit specified. So it can be said that most of the students' scores are still below the KKTP.

Based on these problems, researchers provide solutions by providing interesting and innovative media in learning. The presence of media will make the learning process interesting and make students more focused (Carvalho & Yeoman, 2021; Listiyani et al., 2021). Media is a very useful tool for students and teachers during the teaching and learning process so that learning activities are more optimal (Kustandi & Darmawan, 2020; Susanto, 2021). Interesting media also causes increased motivation to learn (Antara & Dewantara, 2022; Suganda et al., 2023; Weng et al., 2020). The material can be easily understood with media and facilitates the process of transferring knowledge by teachers (Fatayan et al., 2023; Ibda et al., 2023; Prihantini et al., 2024).

So this research is needed to develop innovative and needed media. The accuracy of choosing media according to needs is needed to raise students' learning motivation (Gustini et al., 2023; Osborne et al., 2019). One of the innovative and interesting media that can be used is a scrapbook. A scrapbook is a book that contains material and is equipped with interesting pictures (Wusqo et al., 2021). Scrapbook is a media containing innovative and creative still images (Clark & Victor, 2023). Scrapbook media has the advantage of being able to attract attention in terms of color, images, and design so that it will make students feel at home or interested in learning, especially in science learning which has broad and in-depth material (Veronica et al., 2018). Then Wusqo et al. (2021) adding, scrapbooks can be flexibly accessed by students and help students to understand the material. So that the selection of Scrapbooks as a medium in learning science will attract attention and

make students enthusiastic about learning and will improve their learning outcomes.

Similar previous research, namely research by Arum et al. (2023) the use of scrapbooks as a medium resulted in an increase in the post-test score of 83.42 from the previous pre-test of only 58.22. Then it was also proven that scrapbook media is effective in increasing learning motivation. Then research by Yessick et al., (2020), the results of the study showed that scrapbooks improved the quality of learning and received positive responses from students. Furthermore, research by Hafizhah & Setyasto, (2024), scrapbook media helps improve science learning outcomes can be seen from the test results before using the media getting an average of 54.22 and after using the media getting an average of 84.22. The media is also easy to use for learning. Research by Ratnasari et al., (2024), with the use of scrapbooks as a medium for heat transfer material. The results of the study showed that the media developed had entered the "Very Valid" category because the validation results from material experts obtained a percentage of 98.8% and the validation results from media experts obtained a percentage of 100%, while the results of the teacher response questionnaire assessment obtained a percentage of 100%, and the results of the student response questionnaire obtained a percentage of 99% with very practical criteria. The novelty of this study from previous studies is that this study will develop scrapbook media that focuses on the subject of Social Sciences, the material of Indonesian Cultural Wealth.

Based on the problems above, this study aims to develop scrapbook media and test the effectiveness of the media in improving the learning outcomes of science students in grade IV of SD 01 Bumiayu, Pati Regency. From the previous studies above, scrapbooks are practical, interesting, and effective to use as media.

## Method

The research was conducted at SD Bumiayu 01 Pati Regency, the subjects of this research were 30 grade IV students. The research method applied by the researcher is the research and development method, which is explained by Sugiyono, (2019) as a scientific approach to designing, investigating, producing, and testing the validity of the resulting product. The product that will be produced is scrapbook media. The research model used is Borg and Gall which includes 10 stages according to Sugiyono, (2019). However, in this study only up to the 8th stage due to time and cost constraints experienced by the researcher so that it only up to the product usage trial stage to determine the effectiveness of the product developed in improving learning

outcomes. The following is a picture of the stages of this study:

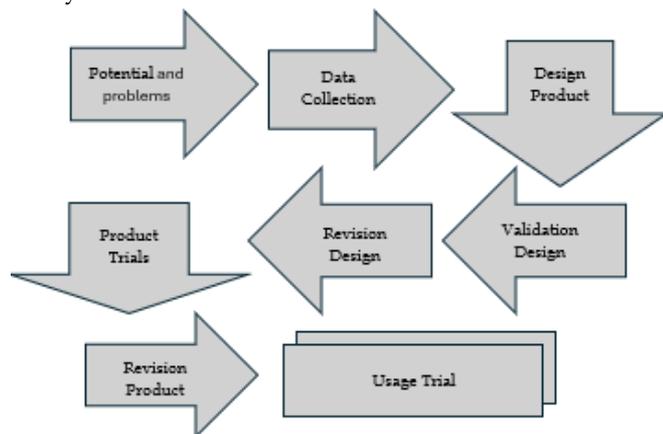


Figure 1. Stages of the Borg and Gall Model

The stages are identification of potential and problems, data collection, product design, design validation, design revision, product trial, product revision, and product usage trial. The following will explain the scrapbook development process with eight stages. First, the stage of identifying potential and problems, namely observations and interviews were conducted in class IV and problems were found with low student grades and this was due to the use of less varied media, teachers only relied on textbooks so that students easily got bored and did not focus on learning. Therefore, the right and latest media needs to be provided. One of the effective and interesting media is a scrapbook which will help students focus more on learning so as to improve student learning outcomes. Furthermore, data collection, researchers distributed questionnaires on needs for teachers and students to find out what kind of media is suitable and according to learning needs. Then at the design stage, researchers began to create media according to the results of the questionnaire that was distributed. The media was developed with the help of Canva to make the design attractive. After that, the researcher designed and wrote the material for the science learning media in the Scrapbook which was adjusted to the learning achievement content, indicators, and learning objectives. The components contained in the Scrapbook also include the introduction, core, and closing sections. Furthermore, design validation, before the media is used in teaching activities, the media must first be validated by material experts and media experts. Validation is carried out using an assessment sheet instrument in the form of a questionnaire according to the criteria for the use of learning media. Then the media will be revised according to the advice of experts until the media is said to be suitable for testing. Furthermore, the media will be tested on a small scale with only 6 students to determine

the readability of the media and the feasibility of the media before being tested on a large scale. From the results of the small-scale trial, the media will be revised if necessary according to the direction of the teacher and students. Then the last stage is a large-scale trial. To determine the effectiveness of the media, students are given pre-test questions to obtain students' initial knowledge, then students will be explained the material using the scrapbook media after which a post-test is given. Students are also given a questionnaire to assess the effectiveness of the media for learning activities. From the results of the pre-test and post-test, further tests will be carried out, namely the normality test, T test, and Ngain test.

## Results and Discussion

Scrapbook learning media has been developed through 10 stages of development according to Borg & Gall. The following is an explanation of these stages.

### *Potential and Problems*

Problems were obtained and identified through observation and interview activities with teachers and all fourth grade students of SDN 01 Bumiayu, Pati Regency. It was found that students still had difficulty understanding one of the IPS materials, namely Indonesian Cultural Wealth. The use of less varied learning media by teachers due to the limited media available and most students' scores were still below the KKTP.

### *Data collection*

Data was collected by distributing needs questionnaires to teachers and students in class IV of SD 01 Bumiayu, Pati Regency regarding development and creation of Scrapbook learning media and searching for and collecting materials and illustrations related to the creation of scrapbook learning media on the 2nd semester IPS subject matter on Indonesian Cultural Wealth. From the results of the data obtained, it was concluded that students showed that the preparation of scrapbook media was arranged with attractive picture illustrations and bright colors.

### *Product Design*

Problems were obtained and identified through observation and interview activities with teachers and students of 01 Bumiayu, Pati Regency. It was found that students still had difficulty understanding one of the IPS materials, namely Indonesian Cultural Wealth. The use of less varied learning media by teachers due to the limited media available and most of the students' grades were still below the KKTP.

Product Design

The results of filling out the teacher and student needs questionnaire were then formulated into a prototype of scrapbook media which was then

developed into a learning media product. The following is the design of the scrapbook media that has been developed by the researcher.



**Figure 2.** Scrapbook Media: (a) cover; (b) bibliography and table of contents; (c) learning outcomes, learning objectives and instructions for using media; (d) Indonesian cultural wealth material; (e) Indonesian cultural wealth material; (f) Indonesian cultural wealth material; (g) bibliography; (h) author biodata; and (i) back cover.

Design Validation

The developed product is validated first by the validator experts which include validator experts assessing the design of the media and material experts assessing the arrangement of the material presented in the learning media. Both experts provide assessments by filling out questionnaires according to the references given by the researcher using a five-scale Likert scale, providing a checklist on each question in the questionnaire. Presented in the Table 1 and 2 regarding the assessment by validator experts.

The scrapbook media developed by researchers received a good assessment of 84% by media experts with a fairly decent category and 93% assessment from

material experts with a very decent category. Therefore, a trial of use can be carried out.

**Table 1.** Scrapbook Media Validation Results

Assessment Aspects	Percentage (%)	Criteria
Layout design.	81.25	Worthy
Clarity of the text (letters) displayed	91.66	Worthy
The quality of the displayed image	83.33	Quite decent
Media view	87.5	Worthy
Quality of language use	87.5	
Clarity of media use	75	
Total percentage	84	Quite Decent

**Table 2.** Scrapbook Media Material Validation Results

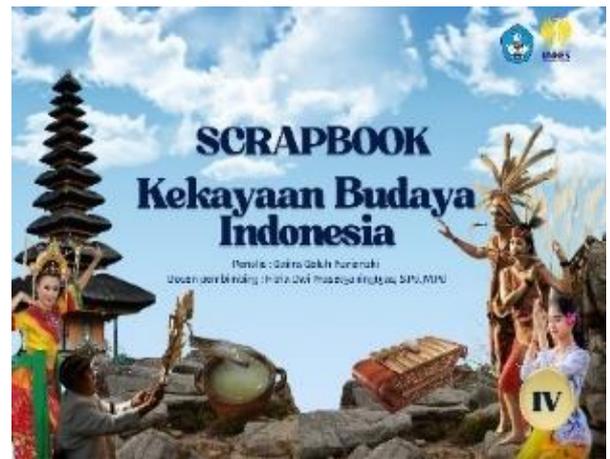
Assessment Aspects	Percentage (%)	Criteria
Quality of language use	91.66	Worthy
Aspects of content quality and purpose	93.75	Worthy
Instructional aspects	90	Quite decent
Technical/appearance aspects	76	Worthy
Total percentage	93	Very worthy

Supported by previous research conducted Saputri & Rahmi (2024) with the title "Development of Scrapbook Media on Human Digestive System Material for Grade V in Elementary School". The research produced Scrapbook media for grade V on human digestive system material. The Scrapbook media that was created has been validated by language specialists and material validation design. The average percentage of the first validation from the results of the linguist validation was 97%, and the average total result of the two validations was 91.42%, included in the category

"Very suitable for use". The average percentage of the second validation from the results of the design expert validation was 92%. Students' responses to the researcher's response survey, which had a response rate of 95%, also showed their agreement with the learning media. Other similar studies that developed scrapbook media on social studies subjects for grade V of Elementary School in their research, the percentage results from media experts obtained a score of 95.2%, material testing was 96.0%, then validation from language experts obtained 91.0%. The percentage results indicate that the Scrapbook-based book learning media is very valid because the content listed has met the requirements and is worthy of being tested (Ernadayanti, 2024). Similar research that supports the above findings is that conducted by Mevia et al. (2022) developing scrapbook media for social studies subjects for grade V elementary school. The results of the scrapbook assessment analysis from material validator experts, language, and media experts obtained a presentation of 91%, this value indicates that scrapbook media is very suitable for use in research.



(a)



(b)



(c)



(d)

**Figure 2.** Scrapbook design: (a) the agency logo is located on the top left before revision; (b) the agency logo is located on the top right after revision; (c) the bibliography is not clearly readable before revision; and (d) adding a white background makes the writing readable after revision.

*Design Revision*

Product based on the assessment of the scrapbook learning media on the feasibility of presentation and feasibility by experts, there are inputs given as improvements to the scrapbook learning media. Suggestions or recommendations from experts are then improved by researchers. The appearance of the learning media before and after being given shown in Figure 2.

*Product Trial*

After the revision is done, continue with small-scale trial to determine how good the social studies learning media on the subject of Indonesia is Rich in Culture in class IV of SDN Bumiayu 01, Pati Regency. The small-scale trial was conducted on 6 students out of 30 students. The purposive sampling method according to Sugiyono, (2019) withinvolves selecting samples based on certain considerations. With the first stage, before starting learning, students are given pretest questions. Second, students learn using scrapbook media. Third, after learning using the media, students are asked to work on posttest questions. Then the researcher gave a questionnaire to students and teachers regarding responses or reactions to learning with scrapbook media. Below is a table of teacher and student responses to learning using scrapbook media.

**Table 3.** Teacher and Student Responses to the Use of Scrapbook Media

Respondents	Evaluation (%)	Information
Teacher	100%	Very Positive
Student	96%	Very Positive

The scrapbook media that was developed received positive responses, therefore it could be continued to product testing on large groups.

*Product Revision*

Referring to the results of filling out the teacher and student response questionnaire regarding learning with scrapbook media, the response was very positive, therefore the researcher did not need to make improvements, and it could be tested directly on large groups.

*Trial Usage*

A large-scale trial was conducted with 24 fourth-grade students of SDN Bumiayu 01 Pati Regency in one meeting. This trial used Scrapbook learning media in the subject of Social Studies with the material Indonesia is Rich in Culture. The stages of activities in the trial use were the same as the stages that had been carried out in

the small-scale trial. At the end of the learning, the researcher also provided a learning response questionnaire with scrapbook media, the results of filling out the questionnaire by students and teachers were used as material for product improvement. Below is a table of teacher and student response scores in the Table 4.

**Table 4.** Results of Student and Teacher Responses to Media Use Scrapbook

Respondents	Percentage (%)	Criteria
Teacher	100	Very Effective
Student	93	Very Effective

The scrapbook media that has been used in this received a very positive response with a 100% presentation by teachers and 93% by students. The results of filling out the questionnaire prove that the media is practical to use, easy to understand, the media design is quite interesting for students who are enthusiastic in participating in learning. Supported by previous research which states that the intensity of learning with learning media is higher than learning without using learning media (Handayani et al., 2024). This is what influences the results of teacher and student responses.

*The Effectiveness of Scrapbook Media*

To find out the effectiveness of the scrapbook media, several tests need to be carried out first. The first test requirement is the normality test. The normality test with Shapiro Wilk was used in this study. with decision making if the data is normally distributed, the Sig. value > 0.05, the data is said to be normally distributed. The data is not normally distributed if the Sig. value < 0.05. The data used for this test are the pretest and posttest values in large-scale trials. Below are the results of the normality test.

**Table 5.** Results of Pretest and Posttest Normality Test

Learning outcomes	Statistics	df	Sig.
Pretest	0.963	24	0.497
Posttest	0.942	24	0.496

The results of the significance value show more than 0.05, therefore the data is said to be normally distributed and can be continued to the next test.

Paired Sample T-test was conducted to determine whether there was a difference in the average before learning using scrapbook media (pretest) and after learning using scrapbook or (posttest). Decision making is based on the sig. value (2-tailed), if the sig. value (2-tailed) < 0.05 then Ho is rejected and Ha is accepted, if the sig. value (2-tailed) > 0.05 then Ho is accepted and

Ha is rejected. The results of the T-test calculation are presented in the Table 6.

**Table 6.** T-Test Results Pretest and Posttest Values

Test criteria	T	Df	Sig. (2-tailed)
Pair 1 pretest score-posttest score	-16,801	24	0.000

The results of the significance value show less than 0.05, so Ho is rejected and Ha is accepted. From that, the data is said to prove that there is a difference in the average value of students in the pretest and posttest. Supported by previous research by developing scrapbook media as a learning media for class V, it obtained. The results of the paired sample t-test showed a significance value (2-tailed) of  $0.000 < 0.05$ . This value proves that there is a difference in the average scores of students in the pretest and posttest (Suryani & Sunarti, 2021). Research conducted by Situmorang et al., (2023) titled "Development of Canva-Based Scrapbook Learning Media on Theme 8 Subtheme 1 for Grade V Students of Sd Negeri 16 Urat Timur Academic Year 2022/2023" obtained the results of material validation by material experts reaching 85% in the "Very Feasible" category, while media validation by media experts obtained 94% in the "Very Feasible" category. The research is a reference or reference for researchers to develop scrapbook media. The findings are supported by the statement Kasdriyanto & Wardana, (2021), in his research which states that scrapbook media is worthy of being a solution in learning so that there is a positive thing, namely the difference in the average value of students before learning with scrapbooks and after learning with scrapbooks has increased. This proves that there is a positive influence and also increases student learning motivation. This is because the scrapbook media developed in it contains various assets such as clear text with bright colors, attractive images, 3D animations, decorations, and backgrounds that enter with images or materials, these assets attract students' attention so that students are enthusiastic in following learning.

To find out the average increase, the N-Gain test is needed. This test is the last stage of testing, the data used is also the same, namely the value data before learning using scrapbook media (pretest) and after learning using scrapbooks or (posttest below the results of the N-Gain test are presented in the Table 7.

**Table 7.** N-Gain Test Results Pretest and Posttest Values

Learning outcomes	student	Average	N-Gain Value	Criteria
Pretest	24	50.5	0.6291	currently
Posttest	24	80.5		

Based on the results of the N-Gain calculations above, it indicates that students in class SDN Bumiayu 01 Pati Regency obtained a score of 0.6291 in the moderate category. The increase in the average means that the scrapbook media is effectively used in improving student learning outcomes in the subject of science, the material of Indonesian cultural wealth.

Supported by previous research aimed at developing scrapbook media and testing its effectiveness in learning. In the calculation of the N-Gain test, it was proven that there was an increase in the average value of students with the test value of 0.615 in the medium category (Haqi & Asih, 2024). Other similar research conducted by Solikah et al (2024) who developed scrapbook media to improve the learning outcomes of grade 1 students in Elementary Schools in the N-Gain calculation obtained a value of 0.8 in the high category. So the value can be concluded that there is an increase in the average value of students from the pretest and posttest. Supported by research that developed scrapbooks on social studies subjects, the material on the benefits of natural resources in the field of economics with an N-Gain value of 0.37 and included in the moderate criteria. The increase in N-Gain proves that scrapbook media is more effective in learning and can improve student learning outcomes (Yono & Estiastuti, 2022).

## Conclusion

Scrapbook media is a product developed by researchers which aims to be a tool to support learning and improve student learning outcomes in the social studies subject of Indonesia's rich culture. students of grade IV SDN Bumiayu 01 Pati Regency. This media received an expert assessment from media expert validators with a percentage of 84% and 93% by material experts, both of which received an assessment in the very feasible category. The assessment by media experts focused on the overall media display elements contained therein, while media experts focused on assessing the material presented in the media. From the analysis scrapbook media suitability book with a paired sample t-test at a significance value of 0.000. This value proves that there is a difference in the average learning outcomes of the pretest and posttest. Furthermore, in the N-Gain test, the results 0.6291 medium criteria. It can be concluded that this scrapbook media is effective in improving the learning outcomes of fourth grade students in the subject of Social Studies, the material of Indonesia is Rich in Culture. Scrapbook media is very helpful for teachers in delivering materials in learning and also helps students in understanding learning materials.

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### Author Contributions

The lead author, SFY, conducted the research, developed the product and analyzed the data obtained in the field. The second author, FDP, supervised the research.

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### Conflict of Interest

No conflict of interest.

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