



KOPDAS (Smart Puzzle Comic) as a Read-Aloud-Based Literacy Medium for Enhancing Elementary School Students' Reading Interest

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ABSTRACT

Purpose - This study aims to develop an innovative learning medium, KOPDAS (Smart Comic Puzzle), as a literacy tool based on read-aloud activities to foster reading interest among elementary school students and to examine its effectiveness. The background of this research stems from students' low interest in reading, driven by the lack of engaging learning media and the underutilization of reading corners in schools.

Methodology - The study employs the Research and Development (R&D) method, using the ADDIE development model (Analyze, Design, Develop, Implement, and Evaluate). The research subjects include material experts, media experts, and second-grade students at SD Negeri Maron Kulon 1 in Probolinggo Regency. Data were collected through observation, interviews, validation questionnaires, and product trials, with pre-tests and post-tests.

Findings - KOPDAS is effective at enhancing students' reading interest. This medium combines comic visuals with puzzle-solving activities featuring Pancasila symbols, thereby increasing active participation, concentration, and comprehension of reading content. The use of read-aloud techniques also helps improve understanding, pronunciation, and students' confidence in reading. The development of KOPDAS is expected to serve as a reference for the innovation of literacy learning media, creating a fun, communicative, and interactive learning atmosphere.

Contribution - This research contributes to the development of an innovative literacy medium, KOPDAS (Smart Comic Puzzle), designed using the read-aloud approach to enhance elementary students' interest and reading habits. The medium integrates the visual and interactive elements of comics and puzzles while strengthening foundational literacy skills through engaging read-aloud activities. Furthermore, this study makes a practical contribution to teachers by offering an alternative literacy learning medium that is creative, appealing, and well-suited to the learning characteristics of young learners.

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INTRODUCTION

Good reading skills can help students recognize, understand, and apply the knowledge they have acquired, both in and outside of school. According to Bebhe et al. (2024), reading literacy is a basic skill that elementary school students must have to increase their knowledge. The ability to read must be instilled from an early age, especially at the elementary school level (Bebhe et al., 2024). Students who are skilled in literacy activities will have a much greater chance of success inside and outside school due to their ability to read, write, speak, and understand what they read well. According to Prahastiwi et al. (2025), some students in the classroom faced difficulty understanding the subject matter even though it had been explained repeatedly. This occurs because students have different characteristics, such as slow responses, quick forgetfulness, and difficulty reading and writing, so innovations such as media development or learning strategies are needed to improve student literacy.

Data from the OECD PISA (2022) shows that Indonesia faces challenges in literacy: around 72% of its population is skilled in reading and writing, while 28% remain illiterate. Based on the PISA report, Indonesia ranks 57th, with literacy scores the third lowest, a difference of only 0.4% from the fourth-lowest. This is a serious problem due to the lack of educational infrastructure, a shortage of qualified teachers, a lack of motivation to learn among students, and economic issues that also affect the literacy rate of the population (Agus et al., 2025).

Among the efforts to improve early childhood literacy in Indonesia is through collaboration and communication between teachers, colleagues, or learning communities, improving teacher competence by participating in various online and onsite training sessions and workshops related to improving the quality of education, particularly literacy, and then applying the knowledge gained from training to institutions or schools. This aligns with research by Yayuk et al. (2023), which analyzes numeracy literacy through art education to improve teachers' knowledge and skills. The results show that with teacher training, teachers' abilities improve, and students can learn happily and meaningfully.

Based on Law Number 14 (2005) concerning Teachers and Lecturers, specifically article 10, paragraph (1), a teacher must possess four competencies: pedagogical competence, personality competence, social competence, and professional competence. 1) Pedagogical Competence is the ability of teachers to manage the learning process for students; 2) Personal Competence means that teachers are respected and emulated, meaning that teachers must have good character, good attitude and behaviour, and be authoritative and role models for students; 3) Social Competence means the ability of teachers to communicate and interact well and effectively with students, fellow teachers, parents or guardians of students, and the surrounding community; and- 4) Professional Competence is the ability to master subject matter broadly and deeply (Nur & Fatonah, 2023).

Of these four competencies, it is equally important for teachers to be creative and innovative in their teaching and student education. A teacher must be able to create a fun learning atmosphere and innovate in learning models, methods, strategies, and media. So, a teacher does not only explain the material but must also consider how to ensure that students truly understand it and that the learning objectives are achieved.

Previous research on *puzzle* media was conducted by Sari and Hasnawati(2023), titled Development of Puzzle-Based Literacy Media to Increase Reading Interest at SDN 043 Tarakan. This research focused on developing literacy media in the form of puzzles to increase reading interest, while the researchers focused on increasing readers' love of reading. Some differences constitute novelty in this research, namely the use of the Borg & Gall (1989:783-795) approach with ADDIE, the design, the materials, the location, and the subject. Previous researchers focused on grade 3 students, while later the puzzle was integrated with comics. In the context of learning, puzzle media can increase knowledge, hone fine motor skills, and help children learn to think logically. Playing puzzles makes learning materials more memorable, builds patience, and helps students work well in groups (Rambe, 2023).

Previous research on comics was conducted by Wulandari and Suniasih (2022), titled Contextual Literacy Comics Media on the Rights and Obligations of Civic Education Material for Grade V Elementary School. In this study, both comic literacy media and the ADDIE approach were used in the learning process. The

difference lies in the design, material, and technique: the researcher used the reading-aloud technique. In contrast, the previous researchers used context-based comic literacy media, and the comics themselves stood alone. Comics are a form of visual media that have a strong ability to convey information in an interesting and easy-to-understand way for readers (Restian, 2019). When comics are used as a learning resource, student engagement tends to increase because they feel more interested and motivated. Students do not merely read comics but also actively engage in understanding the content and messages conveyed (Manf'ati & Restian, 2025).

A study by Cahyani et al. (2023) titled 'Ciko Gemar Literasi: Media in Improving Reading Literacy in Elementary Schools'. This study created picture stories to improve students' literacy. It was a Research and Development study using the ADDIE model, which is proven to increase students' enthusiasm for reading in elementary schools. Previously, Zahro et al. (2022) stated that reading aloud involves correct pronunciation and intonation so that both the reader and the listener can understand what is being conveyed. This means that when reading aloud, it is important to pay attention to pronunciation and intonation so the listener receives the message well. However, teachers still find students who only read without paying attention to meaning and intonation, so that the content of the reading is not well understood.

Said and Budimanjaya (2015: 63), in Zahro et al. (2022), explain that reading aloud can help students focus and pay attention to the teacher and the reading material. In addition, this activity can also trigger questions and encourage discussion. In other words, reading aloud not only improves students' understanding of the material but also creates a more active classroom atmosphere through two-way interaction between students and teachers, driven by questions and discussions related to the material. Therefore, through reading aloud, students can experience greater benefits than just reading silently or quietly.

Zahro et al. (2022) also noted the benefits of reading aloud for students, which significantly enhance students' reading skills and interest. This means that reading aloud not only gives students satisfaction but can also increase their interest in reading, thereby fostering a love of books. If this habit is practiced consistently, it will broaden students' horizons and benefit their personal development. Concurrently, reading is an activity to gain knowledge and information. Reading is a habit of engaging in reading activities from various sources, not just one, to acquire knowledge, in which young children are fond of reading picture books (Fahrozi, 2021)

Sulianti et al. (2020) explain that Pancasila education plays a very important role in the lives of every citizen. Its purpose is to serve as a guideline and reference in living a good life in accordance with the principles of Pancasila. When Pancasila values are applied in educational institutions, this reflects the extent to which they are accepted and internalized by Indonesian society as a whole. Thus, Pancasila values will continue to live and develop in line with the progress of Indonesian society. Through Pancasila Education, it is hoped that educational institutions will serve as forums for implementing the values of Pancasila, both in the teaching and learning process and in community life. This will enable the community, especially in the education sector, to consistently practice these values in their daily lives, thereby achieving the ideals and goals of the Indonesian nation. In this case, teachers need to continue to instill cultural values in students (Sijabat et al., 2025).

One previous study on the development of learning media was conducted by Zuriah (2020), which examined best practices for developing Android-based Civic Education learning media in higher education. The course on developing teaching materials, media, and learning resources in the Civic Education department is one of the important courses that has encountered difficulties. This course is important because it teaches students how to plan, implement, and develop teaching materials, media, and learning resources, as well as related issues in the field. Therefore, the development of learning media should also be carried out in Pancasila education subjects so that the material presented is easy for students to understand.

The results of previous research described above show that when comics and puzzles are used in learning, they can make learning more active, enjoyable, and varied. In addition, these media can increase students' enthusiasm for reading and have been proven effective in elementary schools. Given the importance of Pancasila education, it is necessary to study Pancasila in greater depth, including its material, symbols, values, and meanings.

Based on preliminary observations and interviews conducted by researchers from March to November 2025 at Maron Kulon 1 Public Elementary School in Maron District, particularly among second-grade students, it was found that students' literacy levels remained poor. Students had difficulty understanding the teaching material due to several factors, including some students who had trouble reading, were unenthusiastic about learning, or were too lazy to read. Other conditions in the field include the inappropriate selection of learning media, such as teaching media that emphasize only cognitive aspects and abstract processes that can only be understood by adults. The teaching media is also uninteresting, and students only look at it rather than actively engage with it. Teachers still often use only one teaching material, namely worksheets or teachers' manuals, without any learning media, so that students become bored and unmotivated to learn, and they tend to fall asleep during class.

The classroom has a reading corner for students to learn to read, but it is rarely used because the books are not interesting or suitable for students, so students do not like to read and prefer to use it as a place to play. Teachers also underuse the reading corner, so students lack motivation to use it, resulting in them not enjoying reading. Based on the above problems, the researcher sought the best solution to increase students' enthusiasm for reading or literacy, including developing learning media in the form of KOPDAS, or Smart Puzzle Comics, which are tailored to the material, characteristics, and potential of students using the technique of reading aloud so that students are actively involved in the teaching and learning process. This can also improve concentration, understanding, reading skills, memory, and communication, improve their enthusiasm for reading, and enable them to apply Pancasila and its meaning in their daily lives.

As researchers, we also strive to be more innovative by combining two media, namely comics and puzzles, into a single entity to create a learning medium that is more interesting, enjoyable, and easy for students to understand, thereby increasing their enthusiasm for reading. This medium is called KOPDAS, which stands for Komik Puzzle Cerdas (Smart Puzzle Comics). The research questions for this study are: 1) How can KOPDAS (Smart Puzzle Comics) be developed as a literacy medium based on reading aloud to increase elementary school students' enthusiasm for reading? 2) How effective is the development of KOPDAS (Smart Puzzle Comics) as a literacy medium based on reading aloud to increase elementary school students' enthusiasm for reading?

The development of the Smart Puzzle Comic learning media has several benefits. Theoretically, KOPDAS is expected to serve as a reference for readers on the methodology of media creation, as a learning literacy media tailored to student characteristics. Practically, it can be beneficial for students, teachers, and researchers, namely by making learning more enjoyable, increasing enthusiasm for reading, improving puzzle-solving skills, and making teachers and students more active and communicative. Using reading-aloud techniques, teachers will find it easier to convey material and increase readers' knowledge.

METHODOLOGY

Research Design

The type of research conducted is research and development (R&D), which is used to create specific products and test their effectiveness for researchers and others. The development of KOPDAS (Smart Puzzle Comics) for elementary school Pancasila Education subjects uses the ADDIE model. The ADDIE model consists of five stages: Analysis, Design, Development, Implementation, and Evaluation. This model was chosen for its systematic nature, which greatly helps develop more effective products. All stages in the ADDIE model are carried out in sequence (Indriani & Gusti, 2024).

Participants

This research was conducted at SD Negeri Maron Kulon 1, located on Jln. Raya Maron Kulon, RT 001, RW 001, Maron District, Probolinggo Regency, East Java. The research was conducted from the initial observation and interviews on March 19 and April 15, 2025, and will continue after the proposal seminar is completed, approximately from October to November 2025.

The researcher chose Maron Kulon 1 Public Elementary School because based on a needs analysis conducted through observation and interviews, the students' literacy levels remained poor. The students had difficulty understanding the subject matter or the books' content due to several factors, including some students' continued reading difficulties, which led to low interest and enthusiasm for learning. They also became lazy or disinclined to read and study.

Another field condition is teachers' inappropriate selection of teaching materials and learning media. For example, teaching media that emphasize only cognitive aspects and abstract processes that can only be understood by adults. Such teaching media are also uninteresting, and students simply look at them rather than actively engage with them. Teachers still often use only one teaching material, namely worksheets or teachers' manuals, without any learning media, so that students become bored and unmotivated to learn, and they tend to fall asleep during class.

The classroom has a reading corner that can be used as a learning space for students to practice reading. However, in fact, the reading corner is rarely used by students because the books there are not interesting or suitable for students, so students do not like to read and prefer to use it as a place to play. Teachers also underuse the reading corner, so students lack motivation to use it, resulting in them not enjoying reading.

The first people involved in this development research were the validators, consisting of one subject-matter expert and one media expert. By involving both parties in this research, it is hoped that the material developed will meet the scientific and presentation standards required to achieve the research and development objectives. The second subject is the users of the learning media, namely 14 second-grade students at Maron Kulon 1 Public Elementary School, consisting of six boys and eight girls. Second-grade students were selected as the research subjects because a needs analysis indicated that KOPDAS media could increase their reading enthusiasm at Maron Kulon 1 Public Elementary School.

Data Collection

Collecting data from product trials created by researchers to determine the feasibility and effectiveness of the product. Product trials consist of: (1) Trial design and Subjects, (2) Types of data, and (3) Data collection instruments.

Trial Design and Subjects

The product trial design was conducted to determine whether the media developed were feasible and effective for use in the learning process. Before testing the product, the researcher ensured that the learning media developed met quality standards by conducting validation with media experts and learning material experts. Both validators provided assessments of the media, enabling the researcher to identify its strengths and weaknesses. Another benefit is that the researcher can determine whether the media created is suitable for use. The product trial was conducted on 14 second-grade students at Maron Kulon 1 Public Elementary School. The subjects involved in the KOPDAS media development research can be seen in the table below:

Table 1. Research Subjects

No	Subject	Criteria	Qualifications
1.	Media expert	Doctoral degree holder, PGSD lecturer	Skillful in the field of media
2.	Content Expert	Doctoral degree holder, PGSD lecturer	Skillful in the field of learning
3.	Students	Second-grade elementary school students	Respondents

Type of Data

This development study collected qualitative and quantitative data. Qualitative data were obtained from input, suggestions, responses, and criticism from media and subject matter experts, as well as from second-grade students at Maron Kulon 1 Public Elementary School through questionnaires. Quantitative data were obtained from media and learning material experts who completed assessment questionnaires provided by

the researcher. In addition, quantitative data were also obtained from student response questionnaires in class II of Maron Kulon 1 Public Elementary School.

Data Collection Instruments

In a study, researchers use instruments adapted from previous studies to obtain the data needed when conducting research, and these can be used systematically. These data-collection instruments are used to collect data for the study. Researchers usually use good instruments to obtain the information they need. In the field of education, research instruments generally have two requirements, namely validity and reliability. An instrument is considered valid if it can measure the intended object accurately and precisely. The instruments used in the development research to collect data on the development of KOPDAS media in the Pancasila Education subject for second-grade elementary school students were draft interviews, observations, questionnaires for media and material expert validation, and student responses to KOPDAS media, documentation, and *pre-test* and *post-test* questionnaires. The student response questionnaire was adapted from Wardana (2018), while the pre-test and post-test instruments for reading enjoyment were adapted from previous research by Raibowo et al. (2020).

Data Analysis

Qualitative Data Analysis

With qualitative data analysis, we can collect and compile data from various sources, such as interview results and field observations, making it more structured and usable by a wider audience. Qualitative research focuses on data in the form of words rather than numbers to gain a richer, deeper understanding. In qualitative research, data is analyzed before the researcher begins field research. Then, after the researcher begins field research, the data is analyzed again until the researcher completes it. Qualitative data analysis is conducted interactively and continuously, meaning it continues until the data is saturated. Data analysis includes data collection, data reduction, data display, and conclusion. Below is an illustration of the stages of qualitative data analysis:

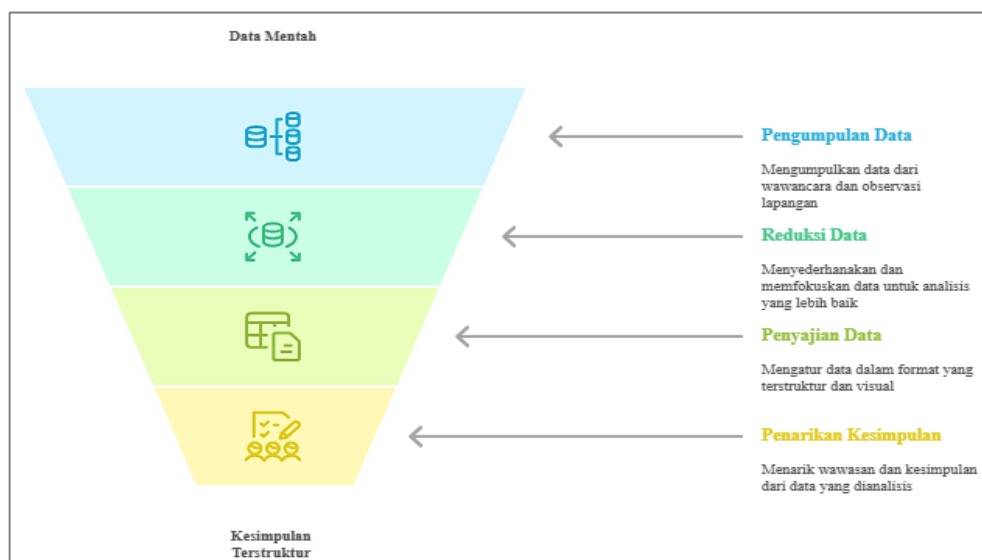


Figure 1. Stages of qualitative data analysis

Data Collection

The researcher collected data through observations of the use of media by elementary school students, namely by directly observing learning activities using KOPDAS media and the difficulties students faced when using it. These activities were recorded in the researcher's field notes.

Data Reduction

Researchers can simplify the data collection process by selecting, focusing, simplifying, abstracting, and transforming field notes through data reduction. Reduced data will provide a more specific picture, and the data collection process will become easier for researchers. Data collected during research is simplified or summarised to identify key issues.

Data Display

Data presentation can take the form of narrative descriptions, charts, relationships between categories, flowcharts, and so on. At this stage, researchers provide data in brief explanations. This data presentation makes it easier for researchers to understand what happened and plan further research activities.

Conclusion

This conclusion answers the questions posed in the earlier problem formulation. This conclusion presents data on the development of KOPDAS (Smart *Puzzle Comics*) as a literacy medium, using the reading-aloud technique to increase elementary school students' enthusiasm for reading.

Quantitative Data Analysis

Quantitative data analysis was used to analyze the questionnaire data. The data obtained from the questionnaire distributed before and after using the KOPDAS media were analyzed. Pre-test and post-test scores were calculated using the N-Gain test and the Paired T-test to provide an overview of the learning media developed. The quantitative data analysis in this study consisted of questionnaires for validators, student response questionnaires, and pre-test and post-test results.

Expert Validity Data Analysis

To determine and demonstrate how accurate, precise, and valid an instrument is in measuring what it is supposed to measure. The purpose of validity in the development of KOPDAS is to evaluate the feasibility of the learning media developed and the suitability of the material in relation to learning outcomes. Validity also serves as a standard for determining whether a learning medium is suitable for use.

Analysis of Student Response Questionnaires and Tests

To determine students' reactions to the media created and to assess how effective the researchers' media were, the results of the student response questionnaire were analyzed as quantitative data.

FINDINGS

KOPDAS Media Development Process

The development steps taken by the researcher were based on the ADDIE (Analysis, Design, Development, Implementation, Evaluation) development model as follows:

Analysis

The initial stage in this research and development process included a needs analysis conducted through direct observation at Maron Kulon 1 Public Elementary School. The results of this analysis would later become the basis for creating the KOPDAS media. From observations and interviews with second-grade students and teachers at Maron Kulon 1 Public Elementary School, it was found that many students still had low literacy skills. This condition arises due to reading facilities and infrastructure that are unattractive and inadequate, teachers' understanding of literacy still needs guidance, and teachers only use one teaching material, namely LKS, which is unattractive and does not stimulate students' enthusiasm for learning and literacy because the media or materials used are not interesting for students. Another factor is that some students still have difficulty reading. Although there is a reading corner in the second-grade classroom, the books available there are few and uninteresting.

Elementary school students generally enjoy playing or doing activities rather than listening to lectures. Teachers must consider students' characteristics when choosing learning media to ensure the material is well-received. Therefore, teachers must create learning media that can attract students' attention. In this case, the researcher used puzzle comics, which children like because they have many pictures and colorful storybooks. It would be even better if media creation could be done in groups, so students could interact and work together to complete a task. With this new media, students are motivated and become more enthusiastic about literacy. The following are pictures taken during observations and interviews with second-grade teachers at Maron Kulon 1 Public Elementary School.



Figure 2. Photo of observation and interview

Design

After analyzing the needs, the next stage is the design or planning of learning media, by selecting teaching materials to be designed into KOPDAS. The researcher chose material on the symbols of Pancasila and their meanings. Then, the background images for the media were determined. The images used for the KOPDAS media background must be attractive. The following images are the background images used.



Figure 3. Front Cover Background and Back Cover of KOPDAS

After selecting the background image for the KOPDAS media, the next step is to write the script and select the images for the Pancasila symbols on this media, as shown in the image and QR code.



Figure 4. KOPDAS Image and QR Code

Next, make the KOPDAS so it can be used. This requires tools, materials, and a manufacturing procedure. The tools used are a ruler, a pencil or pen, scissors, a cutter, a laptop to design the product using CorelDRAW, and original photos, which are then converted into Ghibli images using Grok AI (Artificial Intelligence). The materials used are MDF, glue, sticker paper, art paper, and KOPDAS designs printed on art paper with thicknesses of around 260 gsm for the cover and 210 gsm for the contents. The KOPDAS media developed by the researcher were then validated by media and materials experts before being applied in schools. The results of the validation by media and material experts can be seen in the figure below.

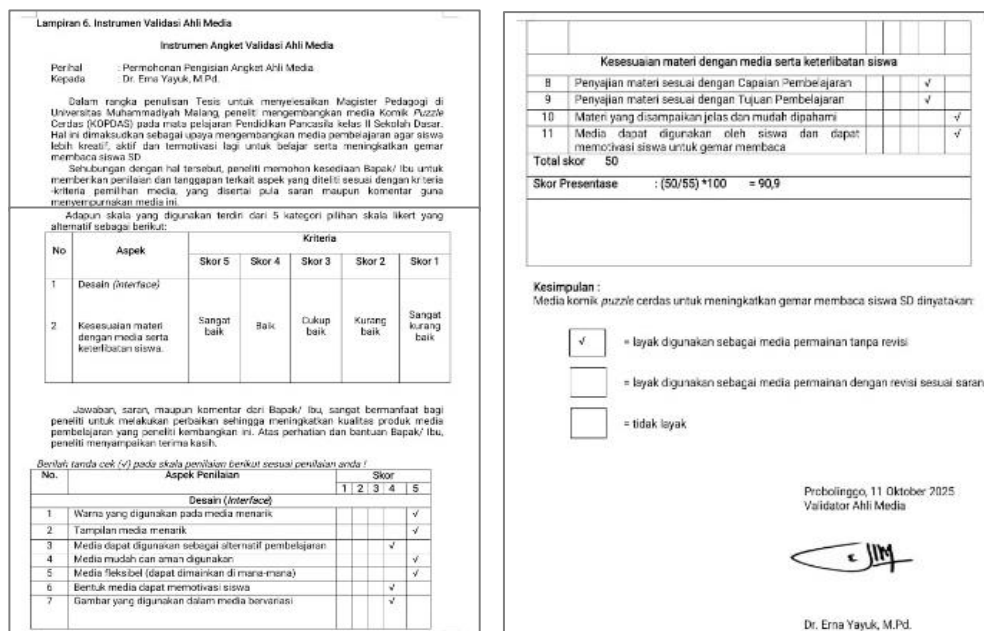


Figure 5. Results of media expert validation

The results of the learning media expert assessment showed an average of 4.54 and a 90.9% rate. The learning media expert said the media was suitable for use because it was engaging, safe, and could encourage students to read more.

The results of the material expert assessment show that the media has a 75% score and an average of 3.83, making it suitable for use as learning media.

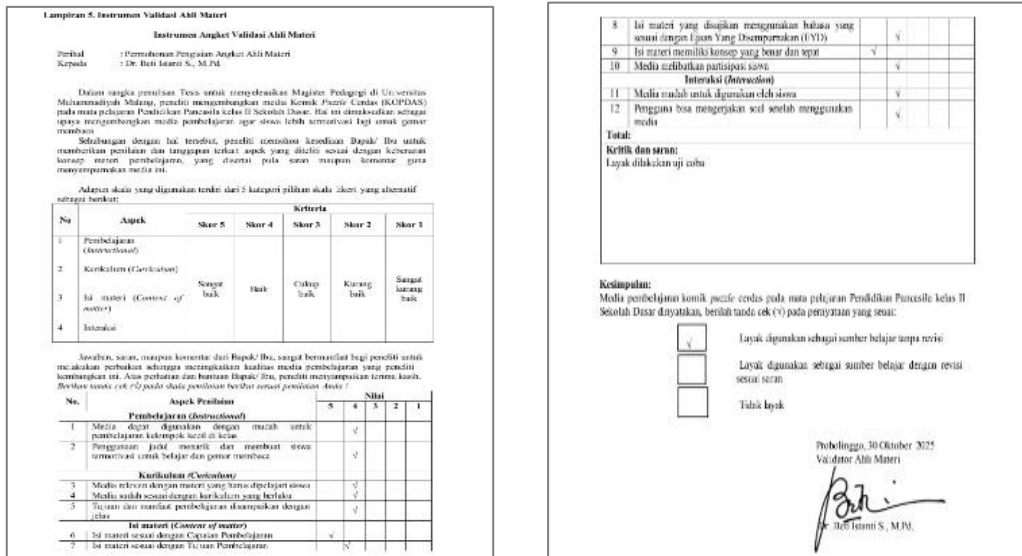


Figure 6. Results of content expert validation

Development

At this stage, researchers revise the validators' assessment results to refine the product. Validators respond to a questionnaire used to assess the media created by researchers. This questionnaire includes comments and suggestions so that media experts can provide feedback on the media that has been created. These comments and suggestions will serve as a reference to improve the media for use in learning activities.

The responses from the learning media experts still have some shortcomings: *the front cover design is a good idea. However, it needs to be adjusted to be more effective and professional, and to focus more on children than on teachers. The layout of the author's identity needs to be added and arranged properly. In terms of media content, the colors and images are attractive and good. The researcher also needs to improve the page order and add a table of contents, after which no further revisions are needed. The average score is 4.54, and the percentage is 90.9%. The validator assesses this media as suitable learning media. Expert assessment of the material: the media developed by the researcher is declared suitable for use as learning media for the subject of Pancasila Education in the second grade of elementary school, with an average score of 3.83 and a percentage of 75%.*

Implementation

During the product trial, the students carried out learning activities with enthusiasm and excitement. The product trial was conducted on two groups from October to November 2025 at Maron Kulon 1 Public Elementary School. The group trial was conducted randomly by giving numbers to each student. The group trial was conducted on second-grade elementary school students.

The activities carried out in the group trial were as follows: the teacher read comics aloud, the students listened and asked questions, and then the students also read KOPDAS and put together puzzle pieces to form a complete picture. This was followed by answering several questions about the material in the media and then completing an assessment of the developed media via a student response questionnaire. The following is a picture documenting the implementation of KOPDAS, developed by the researcher.



Figure 7. Implementation of KOPDAS

Evaluation

The evaluation stage focuses on the assessment process, starting with data analysis and the identification of student needs and problems that occur during the learning process, and continuing through interviews and observations of teachers and students. At the evaluation stage, data on student responses were collected through a questionnaire, which showed that the KOPDAS media were suitable for elementary school students to increase their enthusiasm for reading. The following are the results of the student responses:

Tabel 4.4 Hasil respon siswa

No.	Aspek Penilaian	Jumlah Skor	
		Ya	Tidak
Pengoperasian atau penggunaan media			
1	Apakah media mudah dioperasikan atau digunakan?	14	0
2	Apakah petunjuk penggunaan media jelas?	13	1
3	Apakah kamu suka pada tampilan media komik <i>puzzle</i> cerdas?	14	0
Reaksi pemakai (User Reaction)			
4	Apakah kalian merasa senang menggunakan media komik <i>puzzle</i> cerdas?	14	0
5	Apakah kalian senang jika materi lain menggunakan media komik <i>puzzle</i> cerdas?	14	0
6	Apakah kalian bersemangat dan termotivasi belajarnya dengan menggunakan media komik <i>puzzle</i> cerdas?	14	0
7	Apakah kalian dapat mengetahui makna simbol-simbol Pancasila dengan baik ?	13	1
8	Apakah kalian berminat untuk menggunakan komik <i>puzzle</i> cerdas di rumah?	14	0
9	Apakah kalian berminat untuk menggunakan komik <i>puzzle</i> cerdas ini pada kegiatan pembelajaran?	14	0
10	Apakah media komik <i>puzzle</i> cerdas mudah digunakan dan dapat meningkatkan literasi siswa?	13	1
Skor Total		137	2
Skor Maksimal		140	140
Prosentase (%)		97,8%	1,4%

Figure 8. Student response results

According to the data obtained, there were positive responses (97.8%) and negative responses (1.4%), with two students still not fully understanding the symbols of Pancasila and their meanings after using the media. The results of the student response questionnaire were analyzed using a Guttman scale with yes-or-no questions. Based on the test group's 97.8% positive response rate, the smart *puzzle* comic media for Pancasila Education is highly suitable and valid as a learning medium.

Effectiveness of KOPDAS Media in Increasing Students' Enthusiasm for Reading

N-Gain Test

Researchers conducted pre-tests and post-tests by administering questionnaires or surveys before and after the use of media, while to measure the increase in students' interest in reading related to KOPDAS media, the results of the pre-test and post-test assessments can be used to apply gain score analysis (N-Gain Score). This is in line with the research by Pahmi et al. (2023), which states that the gain score is the difference between the pre-test and post-test results. The extent to which students' enthusiasm for reading is increased through the development of KOPDAS learning media can be determined by calculating the average gain using learning effectiveness criteria, with the ideal score for the reading enthusiasm instrument being 48. According to Pahmi et al. (2023), with the N-Gain Score category division, the following information is provided.

Table 2. N-Gain Score Criteria

Interval of N-gain Score	Category
≥ 0.70	High
0.30 – 0.69	Moderate
< 0.30	Low

KOPDAS learning media is categorized as high or very effective if the average score is ≥ 0.70 , moderate or effective if the N-gain score is 0.30–0.69, and low or ineffective if the average score is < 0.30 .

Table 3. Pre-test and Post-test Results

No	Student	Grade	Pre-test	Post-test	N-Gain	Effectiveness
1	AA	II	12	39	0,75	High
2	AR	II	23	46	0,92	High
3	AB	II	28	44	0,8	High
4	CM	II	36	41	0,4	Moderate
5	FR	II	34	45	0,78	High
6	HJ	II	38	47	0,7	High
7	IP	II	12	39	0,75	High
8	MK	II	32	46	0,87	High
9	NM	II	28	44	0,8	High
10	MN	II	12	39	0,75	High
11	MR	II	38	47	0,7	High
12	NH	II	46	47	0,5	Moderate
13	ZA	II	28	46	0,9	High
14	DN	II	28	44	0,8	High
Avarage Score			28,2	43,8		

From the data above, it can be concluded that there is a significant difference between the results before and after using the KOPDAS media. Before using the KOPDAS media, the average pre-test score was 28.2, with a 14% pass rate. After using the KOPDAS media, the average score was 43.8, with a 86% increase, indicating a significant improvement. Based on the data processing results, the KOPDAS media was found to be effective in increasing students' enthusiasm for reading.

Paired T-test

The Paired T-test is used to determine whether the application of the KOPDAS media increases reading enthusiasm before and after the treatment. The following are the results of the Paired T-test.

Table 4. The Result of Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-test	28.21	14	10.497	2.805
	Posttest	43.86	14	3.085	0.824

Table 5. The Result of Paired Samples Correlations

		N	Correlation	Significance	
				One-Sided p	Two-Sided p
Pair 1	Pretest & Posttest	14	0.794	<0.001	<0.001

Table 6. The Result of Paired Samples Test (t-test)

		Paired Differences					t	df	Significance	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
					Lower	Upper				
Pair 1	Pre-test Post-test	-15.643	8.261	2.208	-20.413	-10.873	-7.085	13	<0.001	<0.001

From the t-test results, it was found that there was a difference in the average *pre-test* and *post-test* scores, from 28.21 to 43.86. Moreover, if the t-Test Sig (2-tailed) is < 0.05, it indicates a significant difference between the pre- and post-treatment conditions. The T-Test result above is < 0.01, indicating a significant increase in reading enthusiasm before and after using the KOPDAS media.

DISCUSSION

The results of the study indicate that the development of KOPDAS media is effective as a literacy intervention based on *reading aloud* to foster a love of reading among elementary school students. Reading aloud activities using KOPDAS make students more active and engaged in understanding the content, as they read and solve puzzles related to the story. This increases interaction between students and the text while strengthening reading comprehension through play-based learning activities.

From the trial results, there was a significant increase in indicators of reading enthusiasm, including increased reading frequency, greater interest in other reading materials, and students' ability to retell the content of what they read. KOPDAS created a fun learning atmosphere and reduced students' boredom by turning reading activities that are usually considered tedious into fun ones.

This is in line with previous research by Handayani (2021), namely the development of STEM-based digital comics to improve students' science literacy skills, which resulted in a medium that is considered very feasible and practical to use in learning, as well as pre-test and post-test results that show an increase in literacy skills. Comics are a combination of text and images that can enhance students' understanding of the concepts and material they are learning. Comics can also improve students' reading skills (Muhaimin & Listryanto, 2023). Comic media can increase students' interest in reading and their literacy skills by combining attractive visual and narrative elements. The use of comics in education can be an effective tool for fostering interest, strengthening literacy skills, and improving student learning outcomes (Putri et al., 2024). The use of comic media can be a solution in increasing reading enthusiasm and improving verbal and written language skills (Pratama, 2023).

Theoretically, these results align with multimodal literacy theory, which holds that combining visual and verbal texts can increase young readers' appeal and understanding. Multimodal literacy refers to the ability to understand, interpret, and create meaning through various means of communication. Multimodal literacy theory is used to develop a range of learning media, including digital books, educational videos, interactive

media, infographics, augmented reality, and social media. All of these media types are designed to support different learning styles, and students who use technology to support the learning process are more interested in learning than those who use multimodal literacy-based media (Olvah et al., 2024).

In addition, the puzzle aspect of KOPDAS reinforces the game-based learning dimension that encourages students' intrinsic motivation. Puzzles themselves are great assembly games for adults and children. The purpose of these puzzle games is to help children become more creative and improve their fine motor and cognitive skills (Arni et al., 2025). KOPDAS can serve as an alternative to literacy media in elementary schools, especially in the Merdeka Curriculum, which emphasizes creativity and active student engagement. Previous studies have shown that interactive media, such as puzzles, can improve students' understanding of concepts and increase their desire to learn (Saras et al., 2025).

However, this study still has limitations, such as the limited number of samples and the school context. Further research is recommended to test the effectiveness of KOPDAS at a broader level and in different contexts, as well as to develop variations in stories and puzzle difficulty levels in accordance with students' developmental stages.

CONCLUSION

The researchers developed KOPDAS for the Pancasila Education subject in the second grade of elementary school, focusing on Pancasila symbols and their meanings. The development of this media was based on the ADDIE development model, namely 1) Analysis, conducted through observation and interviews, and 2) Design, which is the process of designing KOPDAS media using digital tools such as laptops, CorelDRAW, and Grok AI applications. This stage also involved media and material expert validators, 3) Development, which is the development or refinement of media based on suggestions from media and material validators with revisions, 4) Implementation, which is testing the product in two second-grade classes at SDN Maron Kulon 1, 5) Evaluation, which focuses on assessing data analysis and positive responses from students after using the KOPDAS media.

According to validation results by media experts, the developed media have several advantages, namely, KOPDAS has an attractive design, is easy to use, and can increase students' interest in reading and literacy. The percentage of student response questionnaires in the group trial was 97.8%, the percentage of media experts was 90.9%, and the percentage of subject matter experts was 75%. The results before using the KOPDAS media were a pre-test average score of 28.2 and a 14% percentage. After using the KOPDAS media, the average score was 43.8, with a 86% increase, indicating a significant improvement. From the T-test results, it was found that there was a difference in the average pre-test and post-test scores, from 28.21 to 43.86. The T-test result above was < 0.01 , indicating that reading enthusiasm increased before and after using KOPDAS media. From all the results presented, it can be concluded that KOPDAS media is effective and suitable for use in elementary schools and that there is a significant increase in reading enthusiasm.

REFERENCES

- Agus, I. K., Mahardika, D., Suwindia, I. G., & Winangun, I. M. A. (2025). Inovasi Literasi Membaca melalui Media Konidin (Komik Unik Digital Interaktif). *JIIIP (Jurnal Ilmiah Ilmu Pendidikan)*, 8, 195–201.
- Arni, Y., Yogen, L., Kasta, O., & Asmara, T. (2025). Pengembangan Media Puzzle Mata Pelajaran IPAS dengan Materi Penawaran dalam Meningkatkan Kemampuan Kerjasama Antar Siswa pada Kelas V SDN 89 Palembang. *Jurnal Pusdikra*, 6(3), 12–21.
- Bebhe, A., Sayangan, Y. V., Partisia, M., & Qondias, D. (2024). Penggunaan Kartu Kata Bergambar Melalui Pendekatan Bahasa Ibu untuk Meningkatkan Literasi Membaca Siswa Sekolah Dasar The Use of Picture Word Cards Through Mother Tongue Approach to Increase the Reading Literacy of Elementary Students. *Jurnal Perspektif Pendidikan dan Keguruan*, 15(1), 95–107.
- Cahyani, D. D., Alfin, J., Juhaeni, J., & ... (2023). Pengembangan Media 'Ciko Gemar Literasi' dalam Meningkatkan Literasi Membaca di Sekolah Dasar. *Journal of Instructional and Development Research*, 3(6),

- Fahrozi, W. (2021). Pembentukan Karakter Gemar Membaca Pada Anak Usia Melalui Media Buku Cerita Bergambar. *Manfaat Buku Cerita*, 02(06), 580.
- Hadayani, T. (2021). *Pengembangan Media Komik Digital Berbasis Stem Untuk Meningkatkan Literasi Sains Siswa Sekolah Dasar*. 737–756. <https://doi.org/10.26811/didaktika.v5i3.343>
- Hafsah M. Nur, & Nurul Fatonah. (2023). Paradigma Kompetensi Guru. *Journal PGSD UNIGA*, 2(1), 12–16.
- Indriani, N., & Gusti, P. (2024). *Pengembangan Media Pembelajaran Puzzle Untuk Meningkatkan Keterampilan Menulis pada Pembelajaran Bahasa Indonesia Materi Teks Deskriptif di Sekolah Dasar*. Hal. 918–924.
- Laily Mufadatus Zahro dan Wahyu Sukartiningsih. (2022). Pengembangan Media Komik Digital Berbasis Android Untuk Keterampilan Membaca Nyaring Siswa Kelas II Sekolah Dasar. *Jurnal Penelitian Guru Sekolah Dasar* 10(7), 1425–1438.
- Muhaimin, M. R., & Listryanto, D. P. (2023). Peranan Media Pembelajaran Komik Terhadap Kemampuan Membaca Siswa Sekolah Dasar. *Jurnal Pendidikan Dasar Flobamorata*, 4(1), 399–405.
- NiswatulManf'ati, A. R., P. H. I. (2025). Penerapan Model Pembelajaran Project Based Learning (PjBL) Berbantuan Media Komik untuk Meningkatkan Hasil Belajar pada Materi Gaya Gravitasi Siswa Kelas 4 SDN Kauman 1 Malang. *Journal of Science, Education, and Studies*, 04(1), 56–62.
- Nurul Zuriah, N. M. K. (2020). PPKn Berbasis Android di Perguruan Tinggi. *Jurnal Civic Hukum*, 5(1), 62–74.
- OCDE. (2022). Pisa 2022. In *Perfiles Educativos* (Vol. 46, Issue 183). <https://doi.org/10.22201/iissue.24486167e.2024.183.61714>
- Olvah, M., Alfian, M., Nusantara, T., Suyitno, I., & Anggraini, A. E. (2024). Pemanfaatan Berbagai Media dalam Pembelajaran untuk Meningkatkan Literasi Siswa dalam Perspektif Multimodal Literacy. *Jurnal Ilmiah Ilmu Pendidikan (JIIP)*, 7(7), 6391–6398.
- Pahmi, S., Hudaya, C., & Jaya, A. (2023). *Pengaruh Model Pembelajaran Tefa (Teaching Factory) Dalam Pembelajaran Fisika Untuk Meningkatkan*. 9, 1–15.
- Prahastiwi, E. D., Zuriah, N., Widodo, J., & Malang, U. M. (2025). Strategi Guru dalam Mengembangkan Pembelajaran Berdiferensiasi untuk Siswa Slow Learner di Sekolah Dasar. *ELSE (Elementary School Education)*. 9(2), 226–234.
- Pratama, D. R. (2023). Development Of Comic Media Material Determining Character and Character of Fairy Tales For Class 4 Primary School Students. *Jurnal Eduscience*, 10(3), 742–754.
- Putri, V. E., Pradana, S. R., Mulawarman, U., & Jakarta, U. N. (2024). Komik Sebagai Media Pembelajaran Kreatif untuk Meningkatkan Literasi Siswa SD 1. *JESE: Journal of Elementary School Education*, 1(2).
- Raibowo, S., Adi, S., & Hariadi, I. (2020). *Efektivitas dan Uji Kelayakan Bahan Ajar Tenis Lapangan Berbasis Multimedia Interaktif*. 944–952.
- Rambe, A. H. (2023). *Analisis Pemanfaatan Media Puzzle Dalam Meningkatkan Minat Belajar Siswa Pada Tema IV “ Berbagai Pekerjaan ” di Kelas IV SD*.
- Restian, A. (2019). Pengembangan Media “Comic Life” Untuk Gerakan Literasi Siswa. *Student Literation Movement In Elementary*, 5, 159–171.
- Saras, Y. Y., Fatih, M., & Alfi, C. (2025). *Pengaruh Puzzle Natural Science Berbantuan AI Melalui PBL Meningkatkan Literasi Sains Siswa Kelas V Di Sekolah Dasar*. 11(April), 495–505.
- Sari, R. K. (2023). Pengembangan Media Literasi Berbasis Puzzle Edukatif Untuk Meningkatkan Minat Membaca di SDN 043 Tarakan. *AKSARA: Jurnal Ilmu Pendidikan Nonformal*, 10(January), 427–438.
- Sijabat, A., Sauduran, G. N., Voni, C., Sinaga, R., & Sianipar, J. (2025). *Development of The ULOS Model to Improve Culture Awareness of Physics Education Students*. 12(1), 1534–1547.
- Sulianti, A., Efendi □, Y., & Sa', H. (2020). JPK : Jurnal Pancasila dan Kewarganegaraan (Print) Penerapan Nilai-Nilai Pancasila dalam Lembaga Pendidikan. *JPK: Jurnal Pancasila Dan Kewarganegaraan*, 5(1), 54–65. <https://doi.org/10.24269/jpk.v5.n1.2020>
- Wardana, A. (2018). Pengembangan Komik sebagai media pembelajaran untuk mengapresiasi cerita anak pada peserta didik kelas III SD/MI. *Skripsi*, 53(9), 1689–1699.

- Wulandari, L. P. M., & Suniasih, N. W. (2022). Media Komik Literasi Berbasis Kontekstual Materi Hak dan Kewajiban Muatan PPKn Kelas V Sekolah Dasar. *Jurnal Pedagogi Dan Pembelajaran*, 5(1), 33–41. <https://doi.org/10.23887/jp2.v5i1.45286>
- Yayuk, E., Restian, A., & Ekowati, D. W. (2023). Literasi Numerasi dalam Kerangka Kurikulum Merdeka Berbasis Art Education. 7(2), 228–238.