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The development of integrated student worksheets (LKS) with interactive poster in improving students' higher order thinking skills in ecosystem course

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Abstract
The challenge for teachers is to create more creative learning experiences that foster students' interest in learning science so that they are highly motivated to understand phenomena related to science. The use of poster media can be an alternative for teachers to construct science concepts, everyday science phenomena, and the application of science concepts in daily life, which are rarely addressed in regular teaching methods. Additionally, using posters as a learning medium for science is beneficial because science is a subject that encompasses many abstract concepts that can be explained using integrated worksheets and interactive posters. Higher-order thinking skills refer to the ability to use new information or prior knowledge and manipulate it to arrive at possible solutions in new situations. Students demonstrate higher-order thinking skills when faced with a problem or question, ultimately generating ideas to solve the problem. The necessary thinking skills include creative and innovative thinking, critical thinking, and problem-solving, as well as metacognitive thinking. The type of research conducted in this study is Research and Development, and the development model used is the ADDIE model (Analysis-Design-Development-Implementation-Evaluation). This model, developed by Molenda and Reiser, is commonly used to illustrate a systematic approach to instructional development. Based on the t-test results and the explanation above, it can be concluded that there is a significant difference in the creative thinking skills of students who use interactive poster media with a confidence level of 95%. The data processing results show that in the experimental group, consisting of 25 students, the average pretest score was 55, the first posttest score was 66.92, the second posttest score was 71.68, and the third posttest score, after modification with the model, was 81.32. In contrast, the average pretest score in the control group was 53.20, the first posttest score was 60.60, the second posttest score was 63.60, and the third posttest score was 72.64.

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Keywords: Student Worksheets (LKS), Higher order Thinking Skills (HOTS), Interactive Poster, Ecosystem Course

1. Introduction

Education is a necessity that needs to be fulfilled in societal, national, and state life. This aligns with one of the goals of the Republic of Indonesia stated in the Preamble of the Constitution of the Republic of Indonesia Year 1945, which is to improve the intellectual life of the nation. Therefore, every Indonesian citizen has the right to obtain a quality life according to their interests and talents, regardless of social status, race, ethnicity, religion, or gender. The development of a nation is determined by the quality of its education. Furthermore, education is a platform for activities that can be seen as a producer of highly qualified human resources.

Modern education places a greater emphasis on experiential learning, where students learn by experiencing the knowledge themselves. Through personal experiences, students acquire knowledge, understanding, and skills (Arikunto, 1988) [7]. The

experiences gained by students become more memorable when the learning process is a result of their understanding and discoveries. Learning is a complex matter because, the teaching and learning process, is not just about giving and absorbing information but also involves various components and activities to achieve the learning objectives (Arsyad, 2017) [9].

The development of science in the 21st century demands that students be able to compete by developing skills and knowledge. One important skill that students need to develop is higher-order thinking skills (Saavedra *et al*., 2012) [17]. Higher-order thinking skills refer to the ability to use new information or prior knowledge and manipulate it to arrive at possible solutions in new situations. Students demonstrate higher-order thinking skills when faced with a problem or question, ultimately generating ideas to solve the problem (Latuheru, 2010) [15]. The necessary thinking skills include creative and innovative thinking, critical thinking, and problem-solving, as well as metacognitive thinking. One crucial thinking skill to be developed in the field of education is creative thinking (Heong *et al*., 2011) [7].

Creative thinking is a cognitive activity in finding solutions to solve a problem. Creative thinking is an original and reflective way of thinking that produces a complex product. It involves synthesizing ideas, generating new ideas, and determining the effectiveness of existing ideas (Nuraida, 2019) [2]. Creative thinking skills are crucial for students to be able to solve problems and come up with ideas to address those problems. Creative thinking skills can train students to develop multiple ideas and arguments, ask questions, recognize the truth of arguments, and even make students open-minded and responsive to different perspectives. Creative thinking skills are part of the learning process to help students become successful learners, confident individuals, and responsible citizens. Therefore, it is important to develop creative thinking skills across various subjects to help students unleash their creativity and be creative in problem-solving.

Creativity is a highly important skill for problem-solving and generating new ideas (Simanjuntak, 2022) [3], producing new ideas by combining, modifying, or adding to existing ideas, using various ideas, refining, analyzing, and evaluating ideas to enhance and maximize creative efforts (Hamalik, 2010) [13]. There are five characteristics of creative thinking skills: (1) Fluency, which refers to the ability to generate a large number of ideas, methods, suggestions, questions, concepts, or alternative answers smoothly and quickly within a specified time, with an emphasis on quality; (2) Flexibility, which involves the ability to produce varied ideas, answers, or questions obtained from different perspectives by changing the approach or mindset; (3) Originality, which is the ability to produce expressions, ideas, or solutions to problems or create unusual, unique, and new combinations or elements that are not thought of by others; (4) Elaboration, which is the ability to enrich, develop, expand, detail, or elaborate on the details of objects, ideas, main concepts, or situations to make them more engaging; (5) Metaphorical thinking, which is the ability to use comparisons or analogies to create new connections (Piirto, 2011) [4].

Minister of Education and Culture Regulation Number 16 of 2013 states that the 2013 curriculum aims to prepare Indonesian individuals to have the ability to live as individuals and citizens who are faithful, productive, creative, innovative, and effective, and who can contribute to community life, the nation, the state, and world civilization (Andrini, 2016). Learning tools are needed to support the achievement of learning objectives. One comprehensive learning tool in the learning process is the Student Worksheets. Teaching materials need to be developed as they can help teachers deliver the subject matter. One of the government's efforts to improve the quality of education is through the development of teaching materials. Teachers need to create Student Worksheets that can activate students in learning, enhance creative thinking skills, and improve learning outcomes. This is in line with Prastowo's opinion (2014: 203) [18] that Student Worksheets can be created by the subject teachers themselves to make them more interesting and contextual, adjusted to the situation and conditions in the school.

One of the topics in science taught at the primary school level is ecosystems. Ecosystems involve the interaction between living organisms and their environment. Ecosystems are also related to food chains and food webs. Students' understanding of the ecosystem material would be greatly enhanced if they could directly observe their surrounding environment. However, based on observations, the concepts of food chains and food webs are rarely found directly in the immediate environment in a single observation. Students also have difficulty envisioning the food chains that occur in an ecosystem. Therefore, the use of media is necessary to explain these concepts. Several media have been developed for understanding ecosystems, such as illustrated comics, dioramas, popup books, and picture cards (Cahyati, 2021) [8].

The topic of ecosystems is taught at the primary school level to introduce basic concepts of the environment to students. Ecosystems refer to the interaction between living organisms and their environment in a specific area. In primary school learning about ecosystems, students are introduced to several important concepts. They are informed about the main components of ecosystems, namely producers, consumers, and decomposers. Producers are organisms that can produce their own food through photosynthesis, such as green plants. Consumers are organisms that consume producers or other organisms, such as herbivores, carnivores, and omnivores. Decomposers are organisms that help break down dead organic matter, such as fungi and bacteria, allowing nutrients to be returned to the soil (Dafit, 2018) [12]. Furthermore, students also learn about the food relationships or food chains within ecosystems. They learn that food chains begin with producers as the food source for first-level consumers, then first-level consumers become the food source for second-level consumers, and so on. Students are also introduced to the concept of a food pyramid, which illustrates the transfer of energy among organisms in an ecosystem. Ecosystem material at the primary school level is usually delivered through various interactive teaching methods, such as stories, pictures, simple experiments, and visits to the school's surrounding environment. This aims to help students better understand the concepts of ecosystems and develop a sense of care for nature from an early age (Kurniawati, 2020) [10].

In addition, the integration of poster media is also necessary for using Student Worksheets (LKS). Posters are visual media that have a highly persuasive nature as they present an issue that arouses a strong curiosity from the audience. In addition to having a highly persuasive nature, posters also have the purpose of encouraging responses or reactions from the public and are used as a medium for discussion. Poster media can cultivate students' interest and establish a

connection between the subject matter and the real world. Since the learning process is a communication process between students and teachers, the poster serves as a channel or medium for this communication process. This is intended to avoid verbalism in the learning process.

2. Research Methods

The type of research used is Research and Development, and in this research, the development model used is the ADDIE Model. In developing instructional media, a learning model that is suitable for the characteristics of the content being developed is required. The development model used for the video tutorial media on Microsoft PowerPoint is the ADDIE model (Analysis, Design, Development, Implementation, Evaluation) (Sadiman, 2014) [16]. The reason for choosing the ADDIE model is that this research involves development research that applies a sequence of development stages. The steps in developing instructional media using the ADDIE model can be seen in Figure 1:

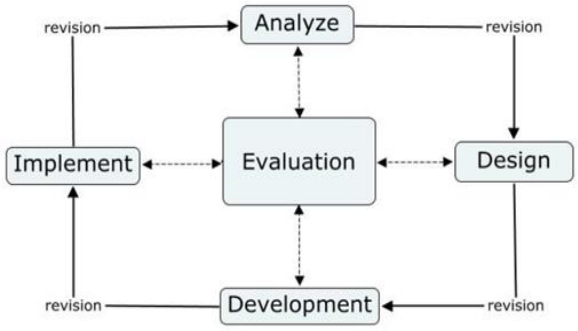

Fig 1: ADDIE Model Development Flowchart

The testing stages in this research involve testing with educational media experts and subject matter experts. During this stage, media experts and subject matter experts provide feedback on the instructional materials. After conducting the testing with media experts and subject matter experts, the researcher revises the developed product if there are any shortcomings in the instructional materials. If the instructional materials meet the positive criteria, there is no need for further revisions (Azwar, 2003; Arikunto, 2016) [5].

The next step is to proceed with limited testing. During this activity, the validity of the product is tested using the following indicators as a basis for decision-making regarding the revision of teaching materials, adapted from the book 'Fundamentals of Educational Evaluation':

Table 1: Criteria for Validation Testing Indicators

Percentage (%)	Explanation
76 – 100	Valid
56 – 75	Quite valid
40 – 55	Less valid
0 -39	Not valid

The table above represents the indicators for product validation testing. After the instruments are presented to the subject matter experts and media experts, the data obtained is analyzed and aligned with the table mentioned above. The purpose of conducting this instructional media trial is to determine the effectiveness of the produced media in the learning process and its impact on students' learning motivation. The purpose of testing the developed environmentally-based visual media, includes the location of the trial, trial subjects, types of data, data collection instruments, and data analysis.

The trial location was conducted at SDN 2 Kotakulon Bondowoso. The trial for the development of environmentally-based visual media was aimed at media experts and subject matter experts. Then, a limited trial was conducted with a small group, where the product was tested with the intended users. This trial was conducted to assess the suitability of the developed media with the target audience. Subsequently, a field trial was conducted to assess the effectiveness of the developed instructional media and its impact on students' learning motivation.

The data in this research consisted of scores and feedback on the validity from the media experts and subject matter experts. The instrument used in this study was a questionnaire or survey. Based on the literature review explained by the researcher, the questionnaire development indicators consist of didactic requirements, construction requirements, and technical requirements. The researcher used a Likert scale for measurement, with "yes" scored as 1 and "no" scored as 0.

Table 2: Level of Criteria for Feedback

No.	Percentage	Level of Validity and Practicality	Description
1.	85 % ≤ RS	High positive	LKS can be directly used in class V of SDN 2 Kotakulon Bondowoso
2.	70 % ≤ RS < 85 %	Positive	LKS can be used in class V of SDN 2 Kotakulon Bondowoso, but requires some revision
3.	50% ≤ RS < 70%	Less positive	LKS can be used in class V of SDN 2 Kotakulon Bondowoso, but requires extensive revision
4.	RS < 50%	Not positive	LKS cannot be used in class V of SDN 2 Kotakulon Bondowoso.

Initial data analysis includes the normality test, which is conducted using the Lilliefors test formula. The criterion is as follows: if the significance (Sig.) > 0.05, the null hypothesis (Ho) is accepted, and if the significance is < 0.05, the null hypothesis is rejected. Next is the homogeneity test, which is used to determine whether the research data comes from the same variance or not. The criterion is as follows: if the significance (Sig.) < 0.05, the variances are not homogeneous, and if the significance (Sig.) > 0.05, the data groups have homogeneous variances (i.e., they are the same). In this study, quantitative descriptive statistical analysis techniques were used. Statistical analysis is used because this research deals with numerical data (quantitative). The formula used to process numerical data is as follows:

Percentage = $\frac{\sum X}{\sum xi} \times 100\%$

X = total number of responses

X_i = total number of questionnaire items × highest weight

Next, to calculate the overall percentage of subjects, the formula is used:

Percentage = $\frac{F}{N}$

Description:

F = total percentage of subjects

N = number of subjects

Fig. 2 depicts the Research and Development Procedure using the ADDIE model

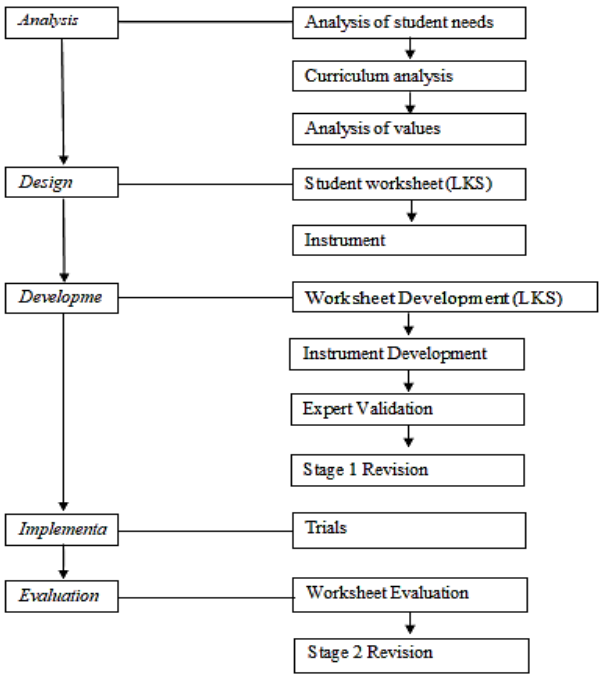

Fig 2: Research and Development Procedure

3. Results

3.1. Analysis Stage

To the facilities and infrastructure that support the learning process. Based on interviews with Grade V teachers, it was found that they currently lack proper lesson planning. The use of existing Student Worksheets (LKS) is still general. Additionally, the implementation of LKS has not been fully optimized, and there is a lack of additional instructional media. The assessment tasks provided do not adequately support the development of problem-solving skills. Teachers rely solely on school-provided textbooks as teaching materials, along with modules. The LKS used still contains routine questions.

In science learning, there are shortcomings in (1) a lack of practical learning; (2) students' textbooks have minimal illustrations and the available illustrations are not meaningful enough, causing confusion among students. Additionally, the size of the images is too small; (3) students have a high dependence on teachers to understand the subject matter.

3.2. Design Stage

The activities carried out in the product design phase of developing a worksheet (LKS) with a poster medium include: composing test criteria, determining teaching materials, gathering reference materials, selecting instructional media, and choosing the format for instructional presentation. Based on field observation results, the test scores of students in the odd semester have an average value that is nearly the same, making it easier to determine the types of questions because the measured abilities are almost identical. Furthermore, a test blueprint is developed as attached in the appendix. The developed test is adjusted according to the level of cognitive abilities. The test items are created with low, moderate, and high difficulty levels.

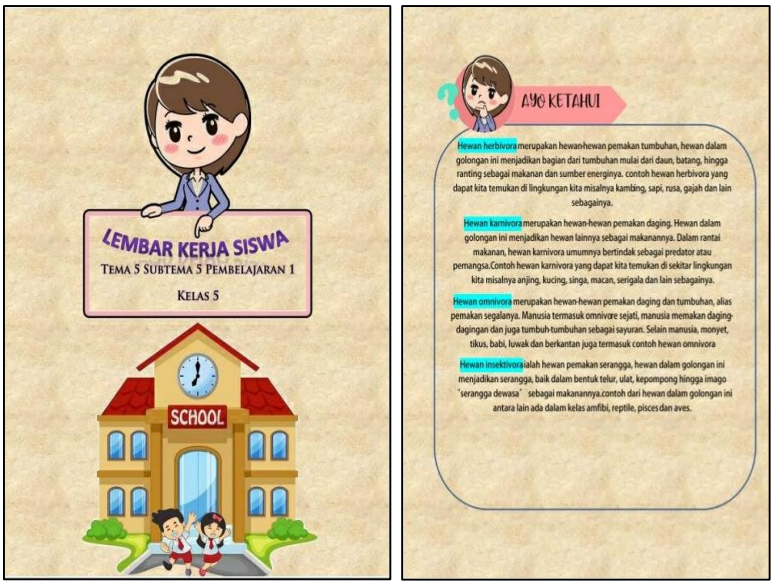

Fig 3: Cover and Initial Pages of the Worksheet (LKS)

The material used in this research is Theme 5 on the Ecosystem with the Subtheme of Ecosystem Components for Grade V. After analyzing the curriculum and the subject matter, references were collected according to the ecosystem topic. The material was collected from various sources that align with the content taught in the classroom. For this research, the researcher chose a media format that suits the characteristics of the students, which is an interactive poster. The use of an interactive poster as a media format can help students comprehend abstract concepts more concretely and provide a more meaningful learning experience. The researcher opted for an attractive presentation format that would captivate the students' attention. The learning poster was designed to be visually appealing by incorporating images, color selection, and various writing formats and sizes. The size of the poster was made as efficient as possible for ease of use by the students.

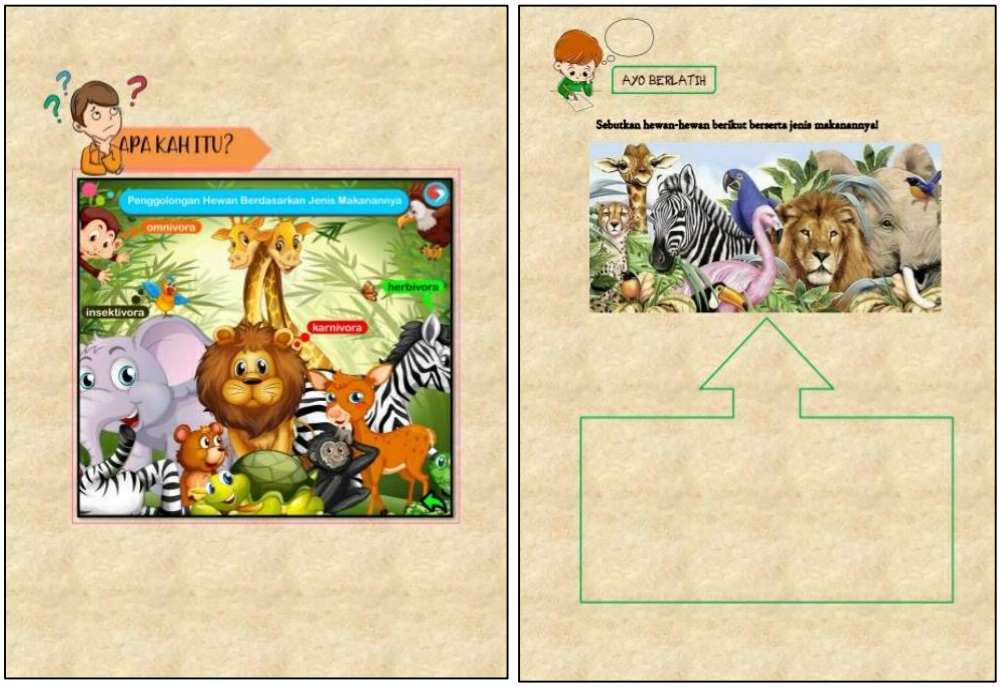

Fig 4: Some Illustrations of the Contents of the Worksheet (LKS)

3.3. Development Stage

Validation by subject matter experts is conducted to assess the validity of the learning materials, content, and language, covering all aspects developed in the instructional media, including the format, language, and content of the Lesson Implementation Plan. Based on the assessment results by subject matter experts, as shown in the analysis table, a percentage of 80% was obtained. When converted using the data interpretation criteria table, it indicates that the developed product falls into the valid category and does not require revision. The questionnaire data analysis provided to the subject matter experts was used to revise the produced product to achieve better results. After the assessment by subject matter experts, a percentage of 87% was obtained, indicating that the product qualifies as "valid" and does not require revision. This aligns with the indicator criteria.

Table 3: Validation Test Indicator Criteria

Percentage (%)	Explanation
76 – 100	Valid
56 – 75	Quite valid
40 – 55	Less valid
0 -39	Not valid

Validasi ahli media LKS meliputi aspek: meliputi petunjuk belajar, kelayakan isi soal, bahasa, tampilan dan kemudahan dalam penggunaan LKS. Berdasarkan hasil penilaian ahli media pembelajaran sebagaimana tercantum pada tabel analisis, maka diperoleh prosentase sebesar 85% setelah dikonversikan dengan tabel kriteria interpretasi data menunjukkan bahwa produk yang dikembangkan dalam kategori valid dan tidak perlu direvisi.

3.4. Implementation Stage

Field testing of the product was conducted by the researcher in collaboration with the VA and VB grade teachers at SDN Kotakulon 2 Bondowoso. In the field test of the developed interactive poster media product, 10 students were asked to evaluate the development of the integrated interactive poster worksheet (LKS) based on the science subject matter of the ecosystem. The evaluation was done through a questionnaire designed by the researcher. Based on the field test results, it was determined that the development of the interactive poster media was suitable for the ecosystem subject matter based on the collected data. After going through several stages, starting from development, validation, and field testing, the results showed that out of the 13 test items, 3 items were deemed unsatisfactory (failed) and 10 items were considered valid.

Fig 5: Students Engaged in Reading the Integrated Interactive Poster Worksheet (LKS)

3.5 Evaluation Stage

After conducting three rounds of testing in the experimental and control classes, the data obtained were analyzed through normality testing to assess the normality level of the data in both sample classes. Subsequently, homogeneity testing was conducted to determine whether the research data showed homogeneous variations or not. To determine the significant difference in the learning media of the integrated interactive poster worksheet for students, a t-test was conducted on the pretest and posttest results between the experimental and control classes. The researcher then performed normality and homogeneity tests using the SPSS software version 2.2 for Windows to confirm that the data followed a normal distribution and exhibited homogeneity. A data set is considered normally distributed if the significance value (sig) is greater than 0.05, while a significance value (sig) less than

0.05 indicates non-normal distribution. Based on the normality testing using the Kolmogorov-Smirnov test in SPSS 15 for Windows, the values obtained were (0.157), (0.227), (0.156), (0.132) with corresponding significance values of (0.200), (0.152), (0.200), (0.200). Since the significance values (sig) are greater than 0.05 when the significance level is set at 0.05, it can be concluded that the research data originated from a population with a normal distribution. The results are presented in the following table:

Table 4: Kolmogorov-Smirnov

	Class	Kolmogorov-Smirnov[a]		
		Statistic	df	Sig.
Results	Pretest Experiment	0.157	10	0.200*
	Posttest Experiment	0.227	10	0.152
	Pretest Control	0.156	10	0.200*
	Posttest Control	0.132	10	0.200*

Based on the normality testing results shown in the table above, the significance values of the pretest and posttest data for the experimental and control classes in the experimental group are above 0.05. Therefore, it can be concluded that both the pretest and posttest data for the experimental and control classes are normally distributed. The next step is to test the homogeneity of the two variances between the experimental and control classes using Levene's test statistic, with a significance level of 0.05. If the significance value sig. < 0.05, the data is derived from populations with unequal variances or are not homogeneous. If the significance value sig. > 0.05, the data is derived from populations with equal variances or homogeneous, as determined by Levene's test statistic. The results of the homogeneity test can be seen in the following table.

Table 5: Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
3.479	3	36	0.026

The table above shows that the value of F is 3.479 with the numerator degrees of freedom (df) of 3 and the denominator degrees of freedom (df) of 36, and the significance value sig. is 0.026. Thus, all data groups have non-homogeneous variances. The value of df1 is obtained from k-1 and df2 is obtained from n-k, where k is the number of variables. The result of the homogeneity test in the column 'Test of Homogeneity of Variances' shows that the significance value for the application of the test is 0.026 > 0.05. Therefore, it can be concluded that the experimental group and control group come from populations that have the same variance or both groups come from populations with the same or homogeneous variances.
To verify the hypothesis test as stated in Table 6:

Table 6: Hypothesis Test for the Difference in Creative Thinking Skills between the Control Group and Experimental Group (Independent Sample Test) Independent Samples Test

	t-test for Equality of Means	
	T	Sig. (2-tailed)
Pretest	632	.530
	632	.531
Posttest1	2.130	.038
	2.130	.039
Posttest2	3.331	.002
	3.331	.002
Posttest3	4.276	.000
	4.276	.000

Based on the t-test results and the explanation above, it can be concluded that there is a significant difference in creative thinking skills among students who use interactive poster media with a confidence level of 95%. Based on the data processing results, 25 students in the experimental group had an average pretest score of 55, a posttest-1 score of 66.92, a posttest-2 score of 71.68, and a posttest-3 score after modification with the model of 81.32. On the other hand, in the control group, the average pretest score was 53.20, the posttest-1 score was 60.60, the posttest-2 score was 63.60, and the posttest-3 score was 72.64. The posttest scores in the first and second trials were used as the reference pretest scores in the second and third trials. This indicates that the average posttest scores from posttest-1 to posttest-3 for creative thinking skills obtained higher results in the experimental group compared to the control group. After identifying the significant differences in average scores between the control and experimental groups, the researcher proceeded to conduct a gain test in the experimental group to assess the improvement in students' creative thinking skills before and after the development of integrated worksheets with interactive posters. The results of the gain test in the experimental group can be seen in Table 7:

Table 7: Results of Gain Test for Experimental Group and Control Group

	Experiment Class				Contro Class			
Description	Average Pretest	Average Posttest	Nolmatlized Gain	Criteria	Average Pretest	Average Posttest	Nolmatlized Gain	Criteria
Test number-1	55	66,92	0,24	low	53,20	60,60	0,12	low
Test number-2	66,92	71,68	0,13	low	60,60	63,60	0,02	low
Test number-3	71,68	81,32	0,32	moderate	63,60	72,64	0,23	low

The average posttest results using interactive poster media indicate a higher average compared to the posttest results using other media. This finding strengthens the notion that integrated worksheets with interactive posters are an appropriate medium for enhancing students' learning skills.

4. Discussion

In this study, the focus was on the cognitive domain of students, specifically their thinking skills. The data collection involved administering pretests and posttests at the beginning and end of the learning process, respectively, as well as during the learning sessions. This can be observed through the applied method, which aimed to develop students' thinking skills and brought about changes in their abilities throughout the sessions. During the implementation of the experimental class, the application of students' thinking skills can be seen, particularly in how students were aided in their reading and learning through the posters included in the integrated worksheets. Students benefited from the learning process as their creative thinking patterns were sharpened. They were able to create concepts that integrated their thoughts while solving problems in the worksheets, thanks to the presence of interactive posters.

The researcher developed interactive poster media using instructional tools such as lesson plans (RPP) and student worksheets that were suitable for the interactive poster medium. Before the start of the learning process, the researcher organized the classroom and arranged for students to sit in groups. This was done to make the students the center of the learning process, allowing them to learn in small groups, which benefits both the right and left sides of their brains. The left side of the brain is utilized when studying the subject matter, while the right side is engaged during interactions with other students (Wahid, 2013) [6].

The reason for choosing interactive posters as a medium is to encourage active student involvement in the learning process. It aims to promote student expression and create an enjoyable learning experience. This aligns with the concept of interactive posters, which aims to enable students to use their creative thinking skills without fear or a learning burden. In line with Kurniawati (2018) [19], it is stated that when someone is happy, calm, and relaxed, the neo-cortex of the brain becomes active and can be used for thinking. Conversely, in a tense, fearful, stressed, or threatened state, the reptilian brain becomes active, which hinders a person's ability to think. In addition to the reasons mentioned above, by combining inquiry-based learning models, it is hoped to balance both hemispheres of students' brains. In line with Abdi (2014) and the concept of brain-based learning, students are educated to activate both hemispheres of their brains so that learning can take place more creatively (Andrini, 2016). The latest curriculum aims to transform teaching and learning from a teacher-centered approach to a student-centered approach. It emphasizes active student engagement physically, socially, and mentally to understand and develop life skills toward independent and creative learning using their intellectual, emotional, and practical abilities. Student-centered learning is expected to tap into the learning resources available around students, enabling them to develop systematic, critical, and responsive thinking skills in problem-solving.

Learning is a designed process aimed at helping learners acquire knowledge and skills. When educators assist students in their learning, they engage in activities such as providing information and demonstrating concepts. However, educators need to remember that there are specific learning objectives to be achieved. The educational process in schools is not solely focused on the delivery of knowledge and subject matter. Rather, it prioritizes the development of students' skills in acquiring knowledge on their own. Therefore, the learning process should stimulate students to construct their understanding and knowledge. Learning needs to be designed by educators in such a way that it is meaningful and captures the attention of students. This will lead to learning that enables students to develop creative thinking skills and harness their full potential. Consequently, educators play a vital role in the learning process. They need to be facilitators who encourage students to learn actively and independently. Educators should provide guidance and direction to students in seeking various sources that enhance their understanding and skills.

In addition to the points mentioned above, the learning process should be directed toward developing the potential of all parts of the brain (Jupri, 2013, p.47). Learning should be designed to optimize the maximum development of student's brains. According to several brain experts, the human brain consists of two hemispheres: the left brain and the right brain. The left brain hemisphere is responsible for controlling skills that are logical, linear, rational, symbolic, and structured. On the other hand, the right brain hemisphere is holistic, random, irregular, and intuitive, and it plays a role in controlling emotions, recognizing shapes, patterns, music, creative arts, and visualization. Therefore, the learning process should not only focus on the cognitive aspect that emphasizes the skills of the left brain hemisphere. The involvement of the right brain hemisphere in the teaching and learning process is necessary to prepare students to become intelligent and creative young generations.

Based on the explanation above, educators should be able to choose a teaching medium that not only encourages the active participation of students in the classroom but also optimizes their creative thinking skills according to the functioning of their brains. One teaching model that can empower creative thinking skills is interactive posters. Given this context, changing the way students learn becomes crucial in improving and developing their thinking skills, especially in elementary school. Changing the way students learn, is expected to transform their thinking patterns, preparing them to become intelligent and creative young generations.

5. Conclusion

Based on the analysis of the improvement of students' creative thinking skills in the first and second trials, it can be seen that the average score for creative thinking abilities in the posttest of the first trial was 66.92, which increased to 71.68. Assuming that students' creative thinking skills were still low, as indicated by the posttest results that did not reach the minimum passing grade (KKM). In the third trial, after modifications were made, there was an increase to 81.32. Based on the t-test results and the explanation above, it can be concluded that there is a significant difference in students' creative thinking skills who used interactive poster media with a confidence level of 95%. Based on the data processing results, it was found that there were 25 students in the experimental class with an average pretest score of 55, a posttest score of 66.92 in the first trial, a posttest score of 71.68 in the second trial, and a posttest score of 81.32 in the third trial after modifications were made. On the other hand, the control class had an average pretest score of 53.20, a posttest score of 60.60 in the first trial, a posttest score of 63.60 in the second trial, and a posttest score of 72.64 in the third trial. The posttest scores in the first and second trials were used as the pretest scores in the second and third trials, respectively. This shows that the average posttest scores in

the first to third trials for creative thinking skills in the experimental class were higher than those in the control class. This indicates an improvement in students' creative thinking skills using the developed learning media, specifically the interactive poster, from the first to the third trial. The use of interactive poster media enhances students' creative thinking skills by helping them develop their self-concept, better understand basic concepts and ideas, and stimulate positive thinking, initiative, objectivity, honesty, and openness. The teacher's role is to guide students by providing guided instructions and encouraging independent thinking, allowing them to discover general principles based on the guidance and questions provided by the teacher, with the level of guidance depending on the student's abilities and the material being learned.

6. Acknowledgement

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