

# Effect of Learning Model Based Instruction Assisted by Crozzword Puzzle Media on Activities and Learning Results Social Studies of Elementary School Students

Gadis Ayu Mevyanti<sup>1\*</sup>, Suhanadji<sup>2</sup>, Muhammad Turhan Yani<sup>3</sup>  
Primary Education, Postgraduate, Universitas Negeri Surabaya

**Abstract:-** This study aims to analyze the effect of the problem based instruction learning model assisted by crozzword puzzle media on elementary school student learning activities and to analyze the effect of the learning model problem based instruction assisted by crozzword puzzle media on primary school learning outcomes. The implementation of the problem-based learning model requires students to actively work together and analyze the problems being studied so that theoretically the use of this model affects student activity and learning outcomes. This research is an experimental research with a pretest posttest control group design. The subjects of this study were fifth grade students of SD Muhammadiyah 16 Surabaya. Data collection techniques through student activity observation sheets and student learning outcomes tests. The analysis technique used is the t test. In this case the t test is carried out twice, firstly, to determine the initial conditions of the experimental group and control group and second to determine the conditions after being given treatment. The results of the t test analysis of the activity and student learning outcomes between the control class and the experimental class before being treated showed no significant difference ( $t_{count} -0.358 < t_{table} 1.677$  and sig. 2 tailed  $0.722 > 0.05$  activity;  $t_{count} -0.075 < t_{table} 1.677$  and sig. 2 tailed value  $0.941 > 0.05$  learning outcomes). While the t test results after being given the treatment showed that there was a significant difference between the experimental group and the control group ( $t_{count} 6.544 > t_{table} 1.677$  and a sig. 2 tailed value  $0.000 < 0.05$  activity;  $t_{count} 3.817 > t_{table} 1.677$  and a sig. 2 tailed value  $0.011 < 0.05$  learning outcomes). In this study, treatment is the only difference between the experimental group and the control group. So it can be concluded that there is an effect of the problem based instruction learning model assisted by crozzword puzzle media on student learning activities and outcomes. For teachers who face the problem of low activity and student learning outcomes, it is recommended to use a problem-based instruction learning model assisted by crozzword puzzle media.

**Keywodrs:-** Problem Based Instruction Learning Model, Croozword Puzzle Media, Student Activities, Learning Result.

## I. INTRODUCTIAN

The progress of a nation is determined by the quality of education in that country. This is because education is one of the fields that has the task of carrying out the process of teaching science and developing potential and abilities to society, especially to the nation's next generation. Therefore quality education can create quality and productive human resources. In Law no. 20 of 2003 concerning the national education system, it is stated that National Education in Indonesia has the function of developing capabilities and shaping the character and civilization of the nation with dignity in order to educate the nation's life, aiming to develop the potential of students to become human beings who believe and fear God Almighty, have good character, healthy, knowledgeable, competent, creative, be independent, and become democratic and responsible citizens. The function of national education shows that the hope is that education in Indonesia will be able to create a future generation of nations who have faith and devotion to God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens. However, in reality the education process in Indonesia has experienced a decline in implementing effective and efficient learning, creative, independent, and be a democratic and responsible citizen. However, in reality the education process in Indonesia has experienced a decline in implementing effective and efficient learning, creative, independent, and be a democratic and responsible citizen. However, in reality the education process in Indonesia has experienced a decline in implementing effective and efficient learning.

This decline in education, especially in the quality of the learning process, mostly occurs in elementary schools. In general, this incident was caused by educators who tended to carry out monotonous learning activities, incomplete supporting infrastructure, changes in curriculum that were too short and teachers were confused about implementing the new curriculum. This was expressed by the then Minister of Education and Culture of the Republic of Indonesia, Muhajir Efendi in Kompas daily on August 16 2018 that "the current educational problem is not only related to material or learning methodology, the most important thing is lack of exemplary". In this statement it can be underlined

that the problem of education in Indonesia lies in the material, learning methods, and the lack of role models from parents and teachers.

In connection with the problem of learning methods, until now there are many teachers who still use methods that are not in accordance with the teaching material, even the learning process is more dominated by teachers, while students' involvement tends to be too little. According to Dimiyati and Mujiono (2006: 106), the dominance of teachers in the learning process causes students to be less involved, even more passive, they are more waiting for a presentation from the teacher than seeking and finding their own knowledge, skills and attitudes they need. The impact of learning events that are monotonous and only transfer knowledge from teacher to student or center teacher causes learning to be less effective.

The ineffectiveness of this learning has an impact on students' less active learning. Students who are not active in learning make it difficult for students to catch and understand the material. Activities are one of the important things in the teaching and learning process, because with the activities during the learning process students will have a sense of enthusiasm in participating in the learning process. Student activities in learning can be seen from their participation in carrying out their learning tasks. One of the problems that arise in the learning process is the low activity of students while participating in the teaching and learning process, so that it can result in low student learning outcomes. Less effective learning and students who tend to be passive also occur in schools, especially elementary schools. Where students tend to wait for a presentation from the teacher when learning takes place and the method used is memorization. When they have a lot of material to memorize, their understanding of other materials can be disturbed.

Based on the explanation above, it shows that students who apply the memorization method clearly students only carry out reading activities and are not served on solving problems related to the material. This is related to Hamalik's (2013: 40) explanation that the characteristics of social science learning are transmitting knowledge and understanding of society in the form of facts and ideas to children. It also develops a sense of continuity and stability, provides information and techniques so that they can understand the concepts in the material and are less inclined to memorize. From this statement, to be able to improve students' understanding of social science lessons, learning is needed that can provide an atmosphere of active students learning to identify, find out,

Sudjana (2011) explains that student learning activities are considered so important in learning activities, and student learning activities arise because they are influenced by several factors, namely learning stimuli, attention and motivation, learned responses, strengthening, use and transfer, and the human mind has the ability to store unlimited amount of information. Student activities can be in the form of behaviors and enthusiasm that appear in the

learning process. Activities are very important in learning, if they are not responded well, they can have a bad impact on students in achieving learning outcomes. This happens because activities can make students follow the learning process well.

Based on this explanation, education needs student activity in learning to improve student learning outcomes. According to the Minister of Education and Culture, which was reported by Kompas daily news on December 26, 2012, stated that one of the components of student scores was that students actively asked questions in each learning material. This component is one of the components in the assessment of learning outcomes. The minister's explanation shows that activities have an impact on the achievement of learning outcomes, which means that the more active students are in learning, the higher student learning outcomes.

In response to this, it is necessary to change the learning model that presents social science material by providing an atmosphere that is able to stimulate students to actively learn. One of them is by presenting learning in the form of problems related to the students' closest world then giving problem-solving tasks to students by giving them the freedom to use any means to solve them. Thus, students do not have a tendency to memorize but understand the concept because it is directly related to the students' closest life problems. In addition, students are also not passive but actively seek out and find solutions to problems related to the subject matter.

One learning model that is packaged in the form of problem recognition is the problem based instruction model. This problem based instruction learning model is a learning model based on constructivist understanding that accommodates student involvement in learning and authentic problem solving (Arends, 1997). Problem based instruction is also a learning model that uses real-world problems as a context for students to learn about how to think and problem-solving skills, as well as to obtain essential knowledge and concepts from subject matter. This learning can encourage students to find reasons for correct solutions (learn to reason correct solutions) and further encourage students to build,

This model helps students to process information already in their minds and organize their own knowledge about the social world and its surroundings. This learning is suitable for developing basic and complex knowledge on the influence of the geographical conditions of the Indonesian nation as a maritime and archipelago country on the social and economic conditions of society. Problem-based teaching specifically involves students working on problems in small groups with the help of teachers as facilitators, so that students learn more actively. Activities in this PBI learning model can be seen from the activities of students who recognize problems from their life problems, or their real environment, students solve problems with intellectual skills, learn various roles, through learning experiences in real life. In addition, the learning objectives and learning problems in the problem based instruction model are

designed to be more realistic. As the beginning of learning students are faced with authentic and meaningful problems related to the concepts to be taught to students, which require thoughts or feedback about the consequences of actions taken to solve the problem.

One of the social science learning materials in elementary schools is the influence of the geographical conditions of the Indonesian nation as a maritime and archipelago country. This material includes many things, one of which is the negative and positive effects of geographical conditions. In understanding this material, many students have difficulty because the learning model used by the teacher tends to be boring. Therefore, the problem based instruction learning model is one of the learning models that can be used as an alternative that can make learning more meaningful.

Furthermore, the effectiveness of learning with the PBI model can be increased by adding learning media assistance. Media in accordance with the material on the influence of the geographical conditions of the Indonesian nation as a maritime and archipelagic country is the Crozzword Puzzle media. In this way students will know their learning goals so that the learning process becomes more meaningful. This is made clear by the opinion of Johnson (2004) that the Crozzword Puzzle is a crossword puzzle game that is useful for studying thought patterns, logical thinking, systems approaches and general problem solving. so that student understanding can be improved and will provide an increase in student learning outcomes.

In optimizing learning, especially in enabling students to learn and learning outcomes, it is also supported by several studies. As the results of research from Rahmawati et al. (2017), namely the conventional learning model obtained lower student learning outcomes when compared to the problem-based instruction model accompanied by audio-visual media. Fina Fakhriyah, et al (2016), namely the problem-based instruction learning model is better than conventional learning and can improve the ability to analyze problems, the ability to solve problems, the ability to determine the right solution and conclude.

This study aims to (1) analyzing the effect of the Crozzword Puzzle assisted Problem Based Instruction learning model on the learning activities of elementary school students, and (2) analyzing the effect of the Crozzword Puzzle assisted Problem Based Instruction learning model on learning outcomes of elementary school students' social science.

## II. THEORETICAL FRAMEWORK

### ➤ *Problem Based Instruction Learning Model*

The problem-based learning model is a learning model based on the many problems that require authentic investigation, namely investigations that require real solutions to real problems. The problem-based learning model is based on constructivist learning theory. In this model, learning starts from presenting real problems whose

solutions require collaboration among students. In this learning model the teacher guides students to describe the problem-solving plan into activity stages, the teacher provides examples of the use of skills and strategies needed so that these tasks can be completed. The teacher creates a classroom atmosphere that is flexible and oriented to the investigative efforts of students (Trianto, 2011).

Problem-based learning or Problem Based Instruction has been known since the time of John Dewey. This learning model began to be raised because in general, problem-based learning consists of presenting students with authentic and meaningful problem situations that can make it easy for them to carry out investigations and inquiries.

According to Arends, problem-based instruction is a learning approach where students work on authentic problems with the intention of compiling their own knowledge, developing inquiry and higher-order thinking skills, developing independence, and self-confidence (Trianto, 2011). Problem-based learning is a learning model that presents real-world problems in the learning context, and directs students to acquire essential knowledge and concepts from the subject matter.

Similar opinion was expressed by Mergendoller et al. (2006) stated that the problem based instruction model is an interesting instructional learning strategy. Problem-based instruction organizes teaching around questions and problems which are both socially important and personally meaningful to students. They pose real-life situations, avoid simple answers, and allow various solutions to those situations. In this model, learning begins by presenting real problems whose solutions require collaboration among students. In this learning model the teacher guides students to describe the problem-solving plan into activity stages, the teacher gives examples of the use of skills and strategies needed so that these tasks can be completed.

As the definition of the problem-based instruction model above, shows that this model has several advantages and disadvantages. Trianto (2011) explains that the advantages of the problem-based instruction model are: (1) realistic with the student's life; (2) concepts according to student needs; (3) fostering the character of student inquiry; (4) strong retention of concepts; (5) cultivate problem solving abilities.

### ➤ *Croozword Puzzle Media*

The use of Crossword puzzle learning media is expected to improve student learning outcomes and creative thinking skills. According to (Roestiyah, 2012) it is explained that in the teaching and learning process, teachers must have a strategy, so that students can learn effectively and efficiently, right on the expected goals. One of the learning media that can be used is crossword puzzle learning media. According to (Johnson, 2004) Crossword puzzle is a crossword puzzle game or the like which is useful for studying thought patterns, logical thinking, systems approaches and general problem solving. By using the crossword puzzle learning media, it can make it easier for

students to review lesson materials or make it easier for students to recall what material the teacher has delivered. This is in line with what was stated by Cahyo (2011) that the crossword puzzle learning media is a brain teaser game through searching and memorizing the right words for answers in the available boxes.

Crossword Puzzle learning can be applied as a strategy in learning as stated by Zaini (2008:71) Puzzles can be used as a good and fun learning strategy without losing the essence of ongoing learning. This type of Crossword Puzzle learning can stimulate the cognitive aspects of students, namely student learning outcomes, knowing and solving problems. To solve each Crossword Puzzle students must be able to identify and understand the terms used, students' skills in making conclusions and evaluating choices. That way students become active and increase their enthusiasm for learning.

#### ➤ *Student Learning Activities*

Effective learning is learning that provides learning opportunities alone or doing activities on your own. Therefore, the increase in student learning activities is very important, because the existence of learning activities will improve student learning outcomes. This places learning activities in an important position in the learning process, but the reality in the field shows that many students do not have a high willingness to learn in learning. Poerwardaminta (2010) learning activities are student activities that support learning success.

According to Sugono (2008) activity means activeness, activity and activity. Furthermore, according to Suhana (2014: 21) learning activities are a process of learning activities that involve all psychophysical aspects of students both physically and spiritually, so that behavior change acceleration can occur quickly, precisely, easily, correctly, both related to cognitive, affective and psychomotoric. Arends (in Trianto, 2011) states that the development of problem based instruction has characteristics, namely (1) filing a statement or problem; (2) there is a link between scientific disciplines; (3) authentic inquiry; (4) produce and display the results of a work; (5) collaboration.

Based on some of the statements above, it can be concluded that learning activities are all activities carried out in the process of interaction (teacher and students) in order to achieve learning goals, the activities here are emphasized on students because with student activities in the learning process an active learning situation is created.

#### ➤ *Learning Outcomes*

According to Nana Sudjana (2011) learning outcomes are a result of the learning process using measurement tools, namely in the form of tests that are planned in a planned manner, both written tests, oral tests and action tests. Widoyoko (2009) suggests that learning outcomes are related to measurement, then an assessment will occur and lead to evaluation using both tests and non-tests. Measurement, assessment and evaluation are hierarchical in nature. Evaluation is preceded by an assessment

(assessment), while assessment is preceded by measurement. Meanwhile, according to Susanto (2013) suggests learning outcomes, namely the changes that occur in students, both concerning cognitive, affective and psychomotor aspects as a result of learning activities. The notion of learning outcomes as described above is emphasized again by Nawawi (in Susanto, 2013) which states that learning outcomes can be interpreted as the level of student success in learning subject matter at school which is stated in the scores obtained from the test results to recognize a number of certain subject matter.

According to Hamalik (2013) learning outcomes appear to be changes in student behavior that can be observed and measured in the form of changes in knowledge, attitudes and skills. These changes can be interpreted as an increase and better development than before, for example from not knowing to being know, be polite to be polite and so on. Student learning outcomes can be seen if the learning objectives that have been set can be achieved by students. Conversely, if most students cannot achieve the goals of learning, it means that learning outcomes are not achieved. Dimiyati and Mudjiono (2006) also state that learning outcomes are the result of an interaction of learning and teaching actions. From the teacher's side, teaching action ends with a process of evaluating learning outcomes. From the student's point of view, learning outcomes represent the end of teaching from the top of the learning process.

From the above understanding, it can be concluded that learning outcomes are the abilities that students have after they receive their learning experience which is indicated by the test scores given by the teacher after each providing subject matter on one subject. Learning outcomes are not absolute in the form of only values, but can be in the form of changes or increases in the values of attitudes, skills, habits, knowledge, persistence, fortitude, reasoning, discipline, skills and as it leads to positive change.

#### ➤ *Social Sciences*

According to Sapriya (2009) the term social science in elementary schools is the name of a subject that stands alone as an integration of a number of concepts in social sciences, humanities, science and even various social issues and problems of life. A different opinion was expressed by Sardjiyo (2009) that social science is a field of study that studies, analyzes, analyzes social symptoms and problems in society by observing various aspects of life or a combination.

Somantri (in Sapriya, 2009) states that social science is a simplification or discipline of social sciences, humanities and basic human activities that are organized and presented scientifically and pedagogically / psychologically for educational purposes. The existence of Social Sciences or Social Sciences as a subject is built into various concepts, facts, generalizations and theories of social sciences. Because the essence of social science is pure science, while social science is applied science, so the task of social science is to utilize and simplify the material into learning

materials in schools (according to Waspodo and Suhanadji, 2005).

Social science is packaged in fields of study in schools with the development of material that is closer to student life. Through social science subjects, students are directed to become citizens of Indonesia who are democratic and responsible, as well as citizens of the world who love peace. So, social science learning is a simplified social science learning for learning at the school level that has the role of functionalizing theoretical social sciences in real life in society.

Understanding social science learning will greatly influence what the teacher will teach and how the teacher teaches it. Therefore, a teacher is required to understand social science in its entirety, both as learning theoretical knowledge and learning that is real so that it can be applied in social life. Teachers' poor understanding of social science can result in errors in determining learning objectives, determining learning models, strategies or methods, and the media used.

### III. RESEARCH METHOD

In this study, researchers used a quantitative research method, which is a quasy experiment. Quasy experiment becomes this research method because it is in accordance with the nature of the research to be carried out, namely to control and manipulate all relevant variables as expressed by Arikunto (2005: 207) that quasi experiment is research that approaches real experiments where it is impossible to hold tight control or manipulate. all relevant variables, there must be a compromise in determining the validity of internal and external within the existing limits. Students in this study were grouped into two classes, namely the experimental class and the control class. The experimental class was given treatment, namely using a problem-based instruction learning model assisted by crossword puzzle, while the control class only uses conventional learning that is conventional using conventional learning. This research was conducted to analyze the effect of the problem based

instruction learning model assisted by crozzword puzzle media on activities and outcomes learning.

Table 1. Nonequivalent Control Group Design

Class	Pretest	Treatment	Posttest
Experiment	O1	X	O2
Control	O3	C	O4

Information:

- O1 : Initial test in the experimental group
- O2 : The final test in the experimental group
- X : Problem based instruction learning model assisted by crozzword puzzle media
- C : Conventional learning model
- O3 : Initial test in the control group
- O4 : The final test in the control group

Subject this research is class VA students of SD Muhammadiyah 16 Surabaya with a total of 25 students as the experimental group and class VB students of SD Muhammadiyah 16 Surabaya with 25 students as the control group. Collecting data in research using observation sheets and tests. The observation sheet is used to observe student learning activities during the learning process. While the test to obtain data on learning outcomes, learning outcomes tests are given in two stages, namely the pretest and posttest.

Furthermore, the researcher conducted a validity test and a reliability test to determine the feasibility and validity of the instruments used in the study. The research data were analyzed using the normality test and the homogeneity test as a statistical test requirement, then hypothesis testing was carried out.

### IV. RESULTS

The research instrument before being used for research was carried out by the expert validation stage. The results of validation by the validator are presented below:

Table 2. Results of the Validation of Research Instruments by Expert Validators

No.	Validated instrument	Score			Predicate
		V1	V2	Average	
1.	Learning syllabus	3.75	3.50	3.62	Very Valid
2.	Lesson plan	3.58	3.33	3.45	Valid
3.	Student teaching materials	3.73	3.33	3.53	Very valid
4.	Student worksheet	3.83	3.33	3.58	Very valid
5.	Learning Media	4.00	3.57	3.78	Very valid
6.	Student learning activity observation sheet	3.90	3.45	3.67	Very valid
7.	Student Learning Outcomes Test	3.62	3.50	3.56	Very valid

Source: Data processed by the author, 2020

After the validator states that the research instrument is declared fit for use in obtaining research data. Researchers tested the instruments using validity and reliability tests. At this stage, the student learning activity indicator consists of 10 indicators with the condition that it is declared valid if

rcount is greater than rtable. The total number of students N = 25 with a significance level of 5% is 0.396. From the data analysis using SPSS, it was found that all indicators of learning activities were declared valid.

Table 3. Results of Learning Activity Validity Test

Aspect	r Count	r Table	Information
Indicator 1	0.743	0.396	Valid
Indicator 2	0.649	0.396	Valid
Indicator 3	0.506	0.396	Valid
Indicator 4	0.495	0.396	Valid
Indicator 5	0.662	0.396	Valid
Indicator 6	0.577	0.396	Valid
Indicator 7	0.533	0.396	Valid
Indicator 8	0.601	0.396	Valid
Indicator 9	0.601	0.396	Valid
Indicator 10	0.586	0.396	Valid

Source: Data processed by the author, 2020

Furthermore, the researcher conducted a validity test on the learning outcome test instrument with the criteria if rcount is greater than rtable then it is declared valid. The total number of students N = 25 with a significance level of 5% is 0.396. From the data analysis using SPSS, it was found that all items of the test items were declared valid.

Table 4. Results of the Validity Test of Learning Outcomes

Aspect	r Count	r Table	Information
No. 1	0.491	0.396	Valid
No. 2	0.448	0.396	Valid
No. 3	0.497	0.396	Valid
No. 4	0.583	0.396	Valid
No. 5	0.438	0.396	Valid
No. 6	0.548	0.396	Valid
No. 7	0.463	0.396	Valid
No. 8	0.486	0.396	Valid
No. 9	0.530	0.396	Valid
No. 10	0.465	0.396	Valid
No. 11	0.600	0.396	Valid
No. 12	0.675	0.396	Valid
No. 13	0.718	0.396	Valid
No. 14	0.766	0.396	Valid
No. 15	0.650	0.396	Valid
No. 16	0.536	0.396	Valid
No. 17	0.640	0.396	Valid
No. 18	0.422	0.396	Valid
No. 19	0.552	0.396	Valid
No. 20	0.671	0.396	Valid

Source: Data processed by the author, 2020

After the activity instruments and student learning outcomes meet the valid criteria based on the validity test. The next step of the researcher is to conduct a reliability test. This is to find out whether the test instrument is reliable or not. Reliability testing in research instruments that have been trusted and reliable will produce reliable data too. In this study, the reliability test was carried out to test the student's learning activity instrument using the alpha cronbach's formula because the assessment was in the form of a scale, while the learning outcome test instrument used the Spearman-brown formula because the test was in the form of multiple choice. The following are the reliability results for the student learning activity instruments as follows.

Table 5. Reliability Test Results of critical thinking skills

Cronbach's Alpha	N of Items
, 791	10

Source: SPSS output

Based on the table above, the results obtained from the reliability test of the student learning activity instrument showed a reliability value of 0.791. Based on the clarification table of the reliability coefficient (Guilford in Sundayana, 2015: 12) it is known that the reliability test results of the student's creative thinking assessment sheet instrument have a high reliability level with a value of 0.791 so that this instrument can be used in research. Furthermore, the researcher conducted a reliability test on the learning outcome test variables shown in the table below.

Table 6. Learning Outcomes Reliability Test Results

<b>Cronbach's Alpha</b>	<b>Part 1</b>	<b>Value</b>	, 774
		<b>N of Items</b>	10a
	<b>Part 2</b>	<b>Value</b>	, 881
		<b>N of Items</b>	10b
<b>Total N of Items</b>			20
Correlation Between Forms			, 549
Spearman-Brown Coefficient	Equal Length		, 709
	Unequal Length		, 709
Guttman Split-Half Coefficient			, 704
a. The items are: ProblemNo1, ProblemNo2, ProblemNo3, ProblemNo4, ProblemNo5, ProblemNo6, ProblemNo7, ProblemNo8, ProblemNo9, ProblemNo10.			
b. The items are: ProblemNo11, ProblemNo12, ProblemNo13, ProblemNo14, ProblemNo15, ProblemNo16, ProblemNo17, ProblemNo18, ProblemNo19, ProblemNo20.			

Source: SPSS output

Based on the table above, the results obtained from the instrument reliability test student learning outcomes show the reliability of 0.709. Based on the clarification table of the reliability coefficient (Guilford in Sundayana, 2015: 12) it is known that the reliability test results of the student learning outcomes instrument have a high reliability level with a value of 0.709 so that the learning outcome test instrument can be used in the study.

In accordance with the formulation of the problems and hypotheses in this study, the data processed in this study came from observation data on student learning activities and data on student learning outcomes tests. Student learning activity data and student learning outcomes in the experimental and control classes consist of pretest and posttest data.

Table 7. Results of Data Analysis on Student Learning Activities

Class	Meeting	Average	N-Gain	Category
Experiment	Pretest	63.5	0.60	moderate
	Posttest	84.7		
Control	Pretest	64.2	0.21	low
	Posttest	71.5		

Source: Data processed by the author, 2020

Based on table 7 above, in the experimental class the average value of learning activities at pretest was 63.5, while the average value of learning activities at posttest was 84.7. In the experimental class, the n-gain value is 0.60 in the medium category. In the control class the average value of learning activities at the pretest was 64.2, while the average value of learning activities at the posttest was 71.5. In the control class, the n-gain value is 0.21 in the low category.

Based on the table above, the experimental class obtained an average value of learning outcomes at pretest, namely 65.2, while the average value of learning outcomes at posttest was 85.6. In the experimental class, the n-gain value is 0.64 in the medium category. In the control class, the average score at the pretest was 65.6 and the average score at the posttest was 75.8. In the control class, the n-gain value is 0.31 in the low category.

Table 8. Data Analysis Results of Student Learning Outcomes

Class	Meeting	Average	N-Gain	Category
Experiment	Pretest	65.2	0.64	Moderate
	Posttest	85.6		
Control	Pretest	65.6	0.31	Low
	Posttest	75.8		

Source: Data processed by the author, 2020

The normality test is used to test whether the data is normally distributed or not. The normality test used the Kolmogorof-Smirnov formula with a significance level of 0.05 or 5%, using SPSS.

Table 9. Normality Test Results

Group	Group	Value of Significance	Level	Information
Learning activities (Pretest)	Experiment	0.428	0.05	Normal
		0.132	0.05	Normal
Learning activities (Posttest)	Control	0.206	0.05	Normal
		0.223	0.05	Normal
Learning outcomes (Pretest)	Experiment	0.123	0.05	Normal
		0.177	0.05	Normal
Learning outcomes (Posttest)	Control	0.153	0.05	Normal
		0.199	0.05	Normal

Source: Data processed by the author, 2020

The normality test uses the Kolmogorof-Smirnov formula with a significance level of 5%, namely 0.05. If the significance value <0.05, the conclusion is that the data are not normally distributed. However, if the significance value is >0.05 then the data is normally distributed. Based on table 9 above, all variables have a value of more than 0.05, so it can be stated that all research variables have a normal distribution.

This homogeneity test is carried out to test the similarity of several different samples. The homogeneity test of the data was calculated using the Levena test using SPSS with the criteria if the probability (P>0.05) then the sample was homogeneous, whereas if the probalittas (P<0.05) then the sample was not homogeneous.

Table 10. Homogeneity Test Results

Variable	Group	Score Significance	Level	Information
Learning activities (pretest)	Experiment	0.695	0.05	Homogeneous
	Control			
Learning activities (posttest)	Experiment	0.943	0.05	Homogeneous
	Control			
Learning outcomes (pretest)	Experiment	0.719	0.05	Homogeneous
	Control			
Learning outcomes (posttest)	Experiment	0.500	0.05	Homogeneous
	Control			

Source: Data processed by the author, 2020

Table 10 is the homogeneity test data using the 5% significance level, namely 0.05. The conclusion is, if the significance value <0.05, the variant of the data group is not homogeneous, and if the significance value is > 0.05, the

variant of the data group is homogeneous. Based on the table above, all variables have homogeneous data variants.

Hypothesis testing is used to answer the problem formulations and hypotheses proposed in this study. Hypothesis

testing used in this study is to use the t test. The t test is needed to partially test the significance level between each independent variable's influence on the dependent variable.

Table 11. Hypothesis testing

Variable	T	Df	Sig. (2-tailed)	Description
Learning activity	6,544	48	0,000	H1 accepted
Learning outcomes	3,817	48	0.011	H2 accepted

Source: data processed by the author, 2020

The results of t-test analysis on the learning activity variable obtained a t-count value of 6.544. Based on (df.48), the t table value is 1.677 (Priyatno, 2016:142). Based on the table above, the learning activity variable has a t-count value of 6,544 ( $6,544 > 1,677$ ) and the result of sig. 2 tailed worth  $0.000 < 0.05$ , meaning that H1 is accepted because the value of t is greater than t table and value sig. 2 tailed less than 0.05. Thus, it can be stated that there is influence learning model problem based instruction assisted croozword puzzle media to the learning activities of fifth grade elementary school students. In this respect, there is a difference student learning activities between the control class and the experimental class at the time of learning.

The results of the analysis with the t-test on the learning outcomes variable obtained a t-count value of 3.817. Based on (df.48), the t table value is 1.677 (Priyatno, 2016:142). Based on the table above, the learning outcome variable has a t-count value of 3,817 ( $3,817 > 1,677$ ) and the result of sig. 2 tailed value  $0.011 < 0.05$ , meaning that H2 is accepted because the value of t is greater than t table and value sig. 2 tailed less than 0.05. Thus, it can be stated that there is influence learning model problem based instruction assisted by croozword puzzle media on the learning outcomes of fifth grade elementary school students. In this regard, there are significant differences on learning outcomes between the control class and the experimental class at the time of learning.

## V. DISCUSSION

### ➤ *The Effect of Learning Model Based Instruction with Croozword Puzzle Media Assistance to Primary School Student Learning Activities*

One of the objectives of this study is to determine the effect of the problem based instruction learning model assisted by croozword puzzle media on student learning activities. Student activities in learning are all learning activities carried out by students to gain knowledge, build skills and increase their interaction with existing learning resources and with other people. This is in line with the opinion of Iskandar (2009: 180) which states that learning activities are related to activities to obtain information, build skills, improve attitudes or behavior and even strengthen one's personality. In this study, the observed activity aspects were adjusted to the steps of the problem-based instruction model which consisted of 10 activity aspects.

Learning is an activity that can be done psychologically or physiologically (Hosnan, 2014: 183). Activities that are psychological in nature, namely activities such as mental processes, for example thinking, understanding, concluding, listening, examining, comparing, differentiating, expressing, analyzing, and so on. While activities that are physiological, namely activities that are the process of application, for example doing experiments, exercises, practices, making products, appreciation and so on.

Another opinion is expressed by Sardiman (2014: 103) that in learning there needs to be activity, because in principle learning is doing or learning by doing. Activities are principles or principles that are very important in learning interactions. According to Nur and Wikandari (2000: 1) learning is more than just memorizing. A student to truly understand and be able to apply knowledge, they must work hard to solve problems, find things and always be in touch with ideas or ideas. Intellectual development of students occurs when students are faced with interesting and challenging experiences in life that occur in the environment.

The learning process that is expected to occur according to Aunurrahman (2013) is a process that can develop students' potentials in a comprehensive and integrated manner. The development of individual dimensions partially will not be able to support the optimization of potential development of students as expected. For this reason, in the learning process the teacher is not only required to convey the subject matter but must be able to actualize its strategic role in an effort to shape student character through the development of personality and prevailing values.

A teacher at school not only acts as a conveyor of subject matter (transfer of knowledge), but also must be able to portray himself as a social worker, student and scientist, parent, role model, and security seeker (Usman, 2002). Teachers have responsibilities from a professional perspective. This is in accordance with the opinion of Simsek (2017) which states that a teacher must have various competencies and professional skills. A teacher must have skills in managing his class. In addition, the skills a teacher must have are skills to evaluate and assess their students. Furthermore, the teacher can develop various learning materials with various learning media.

Social science learning is basically a process to help students develop themselves, so that they are able to face all changes and social problems around them with an open attitude and creative approaches. The teacher as a facilitator who plays a role in the success of students or learners. For this reason, teachers must be precise, in choosing the learning method that will be used so that learning outcomes are achieved. Hamalik (1994:16) stated that choosing the right learning strategy can increase student activity. This instruction based problem model can be one of the models that can be developed and recommended in the school

curriculum. Good curriculum development can improve learning outcomes and produce good graduates.

In social science learning the teacher can involve students maximally, so that students are not only used as learning objects, because students can be subject to learning by digging up student knowledge. In addition, students can also be active and directly involved in learning. If the teacher does not update the learning model it uses, it can cause students to experience boredom in learning social science and their learning outcomes are not in accordance with expectations or in other words many students do not reach the completeness standard. According to Rofiq (2010: 3) by using the cooperative learning model, learning will be effective and run according to the nature of students as social beings, namely creatures that cannot stand alone,

Problem-based instruction is a learning approach where students work on authentic problems with the intention of compiling their own knowledge, developing inquiry and higher-order thinking skills, developing independence, and self-confidence (Trianto, 2011). The Problem Based Instruction model is a learning model that presents real problems through authentic and meaningful problems, namely learning accompanied by direct experience through both laboratory activities and daily activities that can challenge students to solve the problems they face (Dwijayanti, 2010).

Based on the analysis of the research results presented in chapter IV, it shows that the activity value of the experimental class students who apply the problem-based instruction learning model assisted by crossword puzzle media is more influential than the activity value of the control class students who apply conventional learning. The results of this study indicate that problem-based instruction learning assisted by crossword puzzle media is able to create a climate that makes students enthusiastic so that they actively participate in learning which results in the development of student learning abilities. When students are active in the learning process, it will have an impact on increasing student learning outcomes themselves. As the philosophy of education developed by John Dewey that basically learning is doing, "learning by doing" (Adhani in Ningsih, et al. (2017).

Problem based instruction is a learning model that is able to improve learning activities and student learning outcomes. Because this learning model is able to organize teaching around questions and problems which are both socially important and personally meaningful to students. They pose real-life situations, avoid simple answers, and allow various solutions to those situations. In this model, learning begins by presenting real problems whose solutions require collaboration among students. In this learning model the teacher guides students to describe the problem-solving plan into activity stages, the teacher gives examples of the use of skills and strategies needed so that these tasks can be completed.

➤ *The Effect of Learning Model Based Instruction with Crozword Puzzle Media Assistance to Primary School Student Learning Outcomes*

The purpose of this next study is to determine the effect of the problem based instruction learning model assisted by crossword puzzle media on student learning outcomes. The analysis of the research results in chapter IV shows that there is a greater influence on the experimental class using the problem-based instruction learning model assisted by crossword puzzle media than the control class learning using conventional learning.

This study provides a problem-based instruction model with the help of crossword puzzle media to facilitate students to understand the material about the influence of Indonesia's geographical conditions as a maritime and archipelago country in a fun way. Students are actively involved in cooperation with their groups. In learning in the experimental class, the delivery of material is conveyed through the crossword puzzle media. According to Johnson (2004) crossword puzzle is a crossword puzzle game or the like which is useful for studying thought patterns, logical thinking, systems approaches and general problem solving. For that,

This crossword puzzle media is very suitable to be applied to theoretical material in the form of the introduction of a tool or foreign names because in this learning students are trained to remember, understand and match words according to the name and function of the tool, as stated by Cahyo (2011: 63) namely a crossword puzzle which is an activity to remember, find and match the right words - not only according to the answer, but also the number of boxes provided. Crossword Puzzle learning can be applied as a strategy in learning as stated by Zaini (2008: 71) Puzzles can be used as a good and fun learning strategy without losing the essence of ongoing learning.

The results of this study are in line with research conducted by Iiter (2014) which shows that there is an increase in students' understanding of social science concepts so that their academic results also increase. Another research that supports this research is research conducted by Radili (2013) which describes the results that the average value of student learning outcomes has increased after the application of the crossword puzzle media. This is because learning runs quite effectively, students become more active in learning. Most of the students are motivated, interested and actively participate in filling out and discussing the material contained in the crossword puzzle individually or in collaboration to discuss it with their peers to exchange ideas. After all students have successfully completed the crossword puzzle, the teacher reviews again and asks for answers and student opinions about the contents of the crossword puzzle so that students can better understand the material given. Could Kunandar (2013: 62) argues that learning outcomes are certain competencies or abilities both cognitive, affective and psychomotor that are achieved or controlled by students after participating in the teaching and learning process. Furthermore Suprijono (2009: 5) argues that learning outcomes are patterns of actions, values, understandings,

attitudes, appreciation and skills. Meanwhile, according to Sudjana (2014: 2) learning outcomes are the abilities that students have after receiving their learning experiences. The learning experience includes all activities that are followed by students from entering class until learning has been completed. To simplify the meaning that can be found in the learning outcomes conducted by researchers only in the cognitive realm. Learning success in social science will be achieved if in the process students will form and experience the knowledge they get through various forms of interaction. On this basis, the researcher applies a model, namely problem based instruction learning model.

Learning outcomes can be achieved if the teacher in delivering lessons does not make students only as learning objects, but students are used as subjects, so that students can be directly involved in the learning process. In addition, the teacher does not only use a monotonous learning model, but the teacher must be able to develop a varied and fun learning model so that students enjoy participating in lessons and can improve student learning outcomes. Student activeness is not only in receiving information but also in processing the information effectively, starting to look for partners, discussing, presenting, asking and answering questions.

Yulinasari's (2018) research results show that problem-based instruction can improve learning outcomes in social science. Another study was put forward by Puspitasari (2014) that the problem-based instruction model affects the social science learning outcomes of fifth grade elementary school students. In addition to the characteristics and characteristics that are unique to this learning, it also has very clear objectives, the objective of problem based instruction (Problem Based Instruction) includes a question or problem posing, focusing interdisciplinary linkages. Authentic investigation, collaboration, and producing works and awards. Problem based learning is not designed to help give as much as possible to students.

According to Arends (2001) problem-based teaching is a learning approach where students work on authentic problems with magsud to compile their own knowledge, develop inquiry and higher-order thinking skills, develop independence, and self-confidence. This learning helps students process information already in mind and organize their own knowledge about the social world and its surroundings.

The characteristics of Problem Based Instruction according to Arends (2001: 349), namely (1) Asking questions or problems. Instead of organizing around specific academic principles or skills, problem-based learning organizes teaching around questions and problems that are meaningful to students. (2) Focusing on interdisciplinary linkages. Although problem-based learning may be centered on certain subjects, the problem to be investigated has been selected really real so that in solving it, students review the problem from many subjects. (3) Authentic investigation. Problem-based learning requires students to carry out authentic investigations to find real solutions to real

problems. (4) Producing products and showing them off. Problem-based learning requires students to produce certain products in the form of real work or represent the form of problem solving they find. (5) Collaboration, problem-based learning is characterized by students working together with one another, most often in pairs or in small groups. Working together provides motivation to be continuously engaged in complex tasks and increases opportunities to share ideas and dialogue and to develop their abilities and skills.

In problem-based instruction, small groups of students work together to solve a problem that has been agreed upon by students and teachers. When the teacher is implementing this learning model, students often use a variety of skills, problem-solving procedures and critical thinking. The problem-based instruction model is based on constructivism learning theory. In this model, learning begins by presenting real problems whose resolution requires cooperation between students.

Learning by using the problem-based instruction model, the teacher combines students to describe the problem-solving plan into stages of activity, the teacher gives examples of the use of skills and strategies needed so that these tasks can be completed (Puspitasari, 2014). The teacher creates a classroom atmosphere that is flexible and oriented to the investigative efforts of students. Problem-based instruction is a learning approach where students work on authentic problems with magsud to compile their own knowledge, develop inquiry and high-order thinking skills, develop independence, and self-confidence. This learning model also refers to other learning models, such as project-based learning (project-based instruction), experiential learning (experience-based instruction), authentic learning (authentic learning) and meaningful learning. Problem based instruction learning is a learning model that provides an interaction between interaction and response that connects two learning directions and the environment. The environment provides input to students in the form of assistance and problems, while the brain nerve material functions to interpret this assistance effectively so that the problems faced can be investigated, assessed, analyzed, and sought solutions properly. From this, problem based instruction can optimize learning outcomes in social science. Problem based instruction learning is a learning model that provides an interaction between interaction and response that connects two learning directions and the environment. The environment provides input to students in the form of assistance and problems, while the brain nerve material functions to interpret this assistance effectively so that the problems faced can be investigated, assessed, analyzed, and sought solutions properly. From this, problem based

instruction can optimize learning outcomes in social science. as well as looking for a good solution. From this, problem based instruction can optimize learning outcomes in social science. as well as looking for a good solution. From this, problem based instruction can optimize learning outcomes in social science.

The cause of differences in student learning outcomes applying the problem-based instruction model with the conventional learning model is because in the experimental class students not only form information from a subject matter that they know beforehand, but are also accustomed to building systematic relationships between pieces of information by identifying important elements and determine the structure formed during the learning process. Whereas in the control class, students only understand the information described by the teacher.

## VI. CONCLUSIONS AND SUGGESTIONS

### ➤ Conclusion

Based on the data and discussion of the research results that have been analyzed, the results of the study are concluded as follows. (1) there is an effect of the problem-based instruction learning model assisted by crossword puzzle media on the learning activities of elementary school students on the material The Influence of Indonesia's Geographical Conditions as a Maritime and Archipelagic Country, and (2) there is the influence of the problem based instruction learning model assisted by crossword puzzle media on learning outcomes of elementary school social science on the material The Influence of Indonesia's Geographical Conditions as a Maritime and Archipelago Country

### ➤ Suggestion

Based on the research that has been carried out, the suggestions that can be given are as follows, namely that the teacher is expected in the learning process to take advantage of the problem based instruction learning model assisted by crossword puzzle media because this model has a positive effect on student activity, and the teacher is expected in the learning process to take advantage of the problem learning model. based instruction assisted crossword puzzle media because this model has a positive effect on better student learning outcomes.

The results of this study can be used as a reference for further researchers to conduct further research on the application of the problem-based instruction model assisted by crossword puzzle media. This research is expected to be used as a reference material for further research related to learning models and media as well as research on different variables and materials to enrich the repertoire of science.

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