USE OF SIMPLE DEVELOPMENT TOOLS MEDIA AND *DISCOVERY* LEARNING MODELS TO IMPROVE LEARNING ACTIVITIES AND OUTCOMES CIRCULAR MATERIALS FOR STUDENTS 'HUMAN BLOOD CLASS V SDN 04 KOTABUMI UDIK LAMPUNG

Kurniawan[1], Subhan[2], Muhammad Iqbal[3]

[1,2] STAINU Kotabumi, North Lampung, [3]Pondok Pesantren Darul Huffaz Lampung

Author's email: kurniawan1979.kw@gmail.com, ifrohsyifaatqiya@gmail.com,
muhammad.iqbal.nursalam@gmail.com
*Corresponding author: kurniawan1979.kw@gmail.com

Abstract. *The problem of this research is the low activity and student learning outcomes in science subjects, human blood circulation material. This is because learning tends to be conventional, lacks creation and innovation so that student activities in learning activities do not tend to be monotonous and boring; this has implications for learning outcomes that are not good or low. The purpose of this study was to determine that the use of simple teaching aids developed and the use of discovery learning strategies can increase student activity and learning outcomes, especially human blood circulation material. This study used a classroom action research model which only carried out two Siclus or activity, each Siclus or activity carried out two lessons, so that in this study only four meetings / lessons were held. The samples of this study were students of class V totaling 28 students. The data collection technique uses observation and test techniques taken from the results of the evaluation to see the learning outcomes that have been taking place. Data management uses the Index% formula then correlated to the Interval table. The results obtained are (1) the use of discovery learning models can improve student learning activities on human blood circulation material (2). Simple teaching aids media of development results can improve student learning outcomes in human blood circulation material.*

Keywords : Simple teaching aids, Model *Discovery,* Student Learning Outcomes.

1. INTRODUCTION

Education has an important role in realizing the development of the nation and state. An educator needs to have a clear, planned evaluation program in accordance with the learning indicators. To achieve quality education the teacher has a very important role in the success of the students, because before the learning process takes place the teacher have to plan, implement and evaluate in a structured manner.

To minimize failures in teaching learning process, a teacher should prepare appropriate strategies in learning activities in the classroom. For that teachers must be rich in creations and innovations in developing learning

Actually learning science is interesting learning, because it is accompanied by practical activities. However, due to the lack of innovation and poor creation in the learning process, it can foster boredom and boredom. When learning is no longer attractive to students, the consequence is that student learning outcomes are low as happened to grade V students of SDN 0 4 Kotabumi Udik. It can be seen in table 1 below:

Table 1. KD daily test scores. 4

No.	Score	Frequency	Classification	%	
1	<65	12	Less	60%	
2	65-79	3	Enough	15%	
3	80-90	3	Good	15%	
4	91-100	2	Very well	10%	
total		20			100%

Source: SDN 04 Udik score document

Based on the table above students who get a good mark scores are only 2 people or (10%), students who get good grades are only 3 people (15%), students who get sufficient grades are 3 people or (15%) and students who do not complete in learning activities (60%). Seeing from these data, more than 50% of students did not complete the daily test activities on human blood circulation material.

The result or achievement of learning some vital lessons of this low because of lack of students' understanding of the concept of the material. The low understanding of this concept is because there is no creation and innovation in learning, the learning process runs conventionally so it doesn't foster students' curiosity.

Based on the above problems, it is necessary for the teacher to change the paradigm in the learning process from conventional to professional. Science learning requires concrete media as a stimulus for student thinking. Through the media of teaching aids in learning activities, students will experience the process of finding new concepts and knowledge.

2. LITERATURE REVIEW

The media for human blood circulation aids are the result of existing developments, these media are made from simple, economical materials and there are many surroundings, so that students seem familiar with the media.

In addition to the teaching aids that have been prepared, to improve students' understanding of new concepts and knowledge, it is also supported by learning strategies used in the learning process. *Discovery* strategy is a process of finding new knowledge, students will be more active in doing it directly and students will also work more on both their brains and their hands.

With so many students involved in these learning activities, it is hoped that the understanding of new concepts and knowledge that must be mastered will be easy to learn. If the material is easy to learn, it is likely that the learning outcomes will be better

Meanwhile, according to Maulita (2015: 13) "Learning media is a learning device that plays an important role in the teaching and learning process". Based on the description of the experts mentioned above, it can conclude that learning media is a tool that can help the learning process and functioning to clarify the meaning of the message, so as to achieve the purpose of education or Teaching Process effectively and efficiently?

Educational Teaching Aids are tools that can be absorbed by the eyes and ears with the aim of helping teachers to make the teaching and learning process of students more effective and efficient (Sudjana, 2009: 14), while according to Faizal (2000: 10) defines Educational Teaching Aids as "audio and visuals are used to help the learning process become more interesting and arouse students 'interest in exploring the material. "Based on the opinions of the experts above, it can be concluded that teaching aids are a tool that can be used by teachers to arouse students' interest in participating in learning activities.

Model *discovery* is a model of learning activities that emphasize on understanding concepts , meanings and relationships through intuitive process to finally arrive at the conclusion (Budinigsih, 2005: 43) Meanwhile, according Roestiyah (1991: 53) states that the model of *discovery* is a mental process of students to able to assimilate a process or principles. Whereas in the Learning Technical Guide (2016:

60) *discovery* is a learning process that involves students to organize their own subject matter with an emphasis on finding concepts or principles that were previously unknown to students.

Discovery can pitch so when students are involved term primary use mental process to find a couple of concepts and principles. Thus, from the opinions of the experts above, it can be concluded that this *discovery* model is a learning model that is mentally oriented to students in finding and understanding the concepts, meanings and relationships of a principle or process in learning activities.

Discovery learning model priorities the discovery of previously unknown concepts or principles. With *discovery* learning, it is hoped that students can play an active role, show curiosity, and think critically.

Learning Outcomes Several experts in the world of education provide the following definitions of learning. Sntrock and Yussen (in Sugihartono, 2007: 74) suggest "that learning is a relatively permanent change due to experience".

Sugihartono (2007: 74) argues that learning is "a process of changing behavior as a result of individual interaction with their environment in fulfilling their life's needs". According to Slameto (2003: 2) suggests "learning is a process of changing behavior as a result of interaction with the environment in meeting the needs of life". Morgan (in Ngalim Purwanto, 2002: 84) argues that learning "is any change that is relatively permanent in behavior that occurs as a result of training or experience.

Skinner (in Dimyati and Mudjiono, 2006: 9) argues that learning is a behavior. When people learn, their responses get better, on the other hand, if they don't learn, their responses decrease. Gagne (in Dimyati and Mudjiono, 2006: 10) argues that learning is a complex activity. Learning outcomes in the form of capabilities. After learning people have skills, knowledge, attitudes and values.

Based on the various opinions above, the authors conclude that learning outcomes are a business process carried out by adults to obtain a change in *behavior* which results from interactions with the environment obtained from their experiences.

Science learning is not for imagining objects that do not exist, but students need media as a means of transformation in thinking. When students are only presented with the lecture method while learning requires concrete / practical action on the material, it can be ascertained that the learning objectives will never be achieved.

For this reason, human circulation learning cannot be delivered using the lecture method; it requires simple learning media that can stimulate student thinking so that students are motivated in learning activities. The learning model is part of the determinants of student learning success, if the model offered is monotonous, it is certain that students will feel bored and bored.

For this reason, the learning media and learning models carried out in this study are expected to be motivated by students in participating in learning activities so that students can find new knowledge and better learning outcomes.

The result of science learning in this study is a change in behavior in the form of new knowledge that students have from the results of their learning experiences, from those who don't know to know, understand and understand so that the quality value will be better in the material of human blood circulation.

Several studies that are relevant and support Classroom Action Research improve science learning outcomes through *discovery* learning strategy tools.

Research conducted by A. Widiyatmoko et al (2012: 51) in the *Indonesian Science Education Journal* Vol 1 No.1JPII (2012) 51-56, with the title " Project-Based Learning To Develop Science Teaching Aids Using Used Materials " This research aims to develop and produce science teaching aids through project-based learning using used materials . The data analysis techniques used were qualitative and quantitative. The qualitative approach is used to analyze input from experts regarding the products made while the quantitative approach is used to analyze the results of the

experts' validation using the formula% (score obtained / total score) x 100.Based on the results of the study, it was found that the report value of 100% was achieved with a score smallest 82 and largest value 92.

Research conducted by I Made Putrayasa et al (2014: 20) in *the PGSD Mimbar Journal* Vol 2 No.1 (2014) , with the title " The Effect of Learning Model Discovery Learning and Learning Interest on Science Learning Outcomes " This study aims to determine differences in learning outcomes. Science among groups of students who take learning using discovery learning models with conventional models. This type of research is quasi-experimental research. The data analysis technique used is a questionnaire method to measure interest in learning and a test to measure learning outcomes. Furthermore, the data were analyzed using two-way ANOVA. Based on the two-way ANOVA calculation, it can be concluded that: (1) Testing the first hypothesis, null hypothesis is rejected and alternative hypothesis is accepted (F-count bigger than F-table/ F-count>F-table). This means that there is a significant difference in science learning outcomes between groups of students who take learning with discovery learning models and groups of students who take learning with conventional learning. (2) Testing the second hypothesis, null hypothesis is rejected and the alternative hypothesis is accepted (Fcount> Ftable). This means that there is a significant interaction effect

Based on the description of the problem above, research was carried out on student learning activities and student learning outcomes through *discovery* learning models using simple developmental tools. Developing media simple props have resulted in props are simple to use materials that are already students are familiar with, and engaging for students. So that students will be more motivated in participating in learning activities.

3. RESEARCH METHODS / METHODOLOGY

The research method used in this research is *Classroom Action Research* (PTK) or *Classroom Action Research* with an emphasis on increasing student activity and learning outcomes. This study focuses more on the use of learning media developed and learning *discovery* model which aims to increase the activity and learning outcomes of science learning on human blood circulation material in grade V SDN 04 Kotabumi Udik Kotabumi, North Lampung.

The research activity was in the form of *Random Siclus or activity ,* as many as 2 (two) *Siclus or activity* each *Siclus or activity* consisting of two lessons , with reference to the model adapted from Hopkins (1993 :) in Supardi (2006) Each Siclus or activity of procedures or steps to be carried out in the study this consisted of the four components of the main activities, namely: (a) planning (*planning*); (b) action (*acting*); (c) *observing* ; (d) the reflection (*reflecting*), which in practice four components principal activity was taking place continuously with modifications inserted in the planning component in the improvement plan.

These four components of the main activity of a *Siclus or activity* in classroom action research are described as a spiral. The chart above shows that the first step is *planning* / preparation, the second is treatment and observation. The results are used as a basis for determining reflection (looking at what has happened). From the completion of one *Siclus or activity*, a plan is drawn up that will be used for the next *Siclus or activity* by referring to the reflection results of the previous Siclus or activity until the desired target is achieved.

The subjects of the research action of this class is the students in class V SDN 04 Kotabumi Udik which amounted to 28 students consisting of 15 people students man and 13 students women. The populations in this study were all fifth grade students of SDN 04 Kotabumi Udik Kotabumi North Lampung.

The data collection stage in this development was obtained from several instruments, including, 1) The observation sheet instrument of student attitudes , the observation sheet in this study was used to record observations of student

attitudes when participating in learning activities by the observer / research team . 2) Instrument observation sheets group learning activities, observation of learning process Group conducted at each group learning activities subsequently recorded by the observers on the instrument and then the results are summarized in Table recapitulation of the group's work. 3) Learning outcome assessment test questions, to obtain data on student learning outcomes from each individual for the achievement of learning outcomes. The researcher gave a formative test to the students, using a written test instrument which consisted of 5 items. Before using the items, they were analyzed or validated by a team of experts, in this case the senior teachers and class teachers. Test results which student is learning outcomes are recorded on the score list. After the data has been collected through various research tools, the data is then processed for analysis. Data analysis is the most important part of the scientific research process.

Through data analysis, the data can be given meaning and meaning that is useful for solving research problems. Data analysis. Classical learning outcomes activities are expected to reach a mean value of 65% to 85%. Using the % Index formula as follows:

$$IR = \frac{Total\ Skor}{Y}\ x\ 100$$

The calculation results are then correlated to the Interval table

Group work activities to be measured or assessed are the presentation of group work results, truth and tidiness, working together on assignments. To calculate the data on group learning outcomes, the formula for the total score is divided by the maximum score. So that it can be formulated as follows:

$$\overline{X} = \frac{\sum X}{\sum N}\ x100$$

Table 2. Value calculation and conversion

Score	Classification	Conversion
<65	Less	D
66 - 79	Moderate	C
80 - 90	good	B
91 - 100	Very well	A

4. RESULTS AND DISCUSSION

The results of the research in *Siclus or activity* I and *Siclus or activity* II show that the media of simple tools developed and the *discovery* learning model show a positive trend, where in learning activities students have shown increased activity in terms of interaction, enthusiasm and confidence. For more details, see table 3 below:

Table 3. Summary of results of student learning activities in Siclus or activitys I and II

Siclus or activity	Dimension of Character Judgment											
	Interaction				Enthusiastic				Believe Self			
	A	B	C	D	A	B	C	D	A	B	C	D
I	3	3	18	4	4	6	12	6	4	4	15	5
%	11	11	64	14	21	21	43	21	14	14	54	18
II	10	9	7	2	15	6	5	2	10	8	8	2
%	36	32	25	7	54	21	18	7	36	29	29	7

Based on table 3 above Interaction, in Siclus or activity I who got very good scores (A) there were 3 students, an increase in Siclus or activity II to 10 students or an increase of 7 people or 25%. There were 3 interactions with good scores (B), and an increase in Siclus or activity II to 9 students or an increase of 6 students or 21.43%. There were 18 interactions with a C value in the first *Siclus or activity*,

decreased to 7 students or an increase of 11 students or 39.28%. There were 4 students who scored a D in *Siclus or activity* I, decreased by 2 students in *Siclus or activity* II or increased by 2 students or 7.14.

Enthusiastic activity in the first *Siclus or activity* who got very good scores (A) there were 4 students, an increase in the second Siclus or activity to 15 students or an increase of 11 people or 39.29%. There were 6 students who got good grades (B), no increase in the second *Siclus or activity*, there were still 6 students. Enthusiastic activity that got a C value, there was 12 students in the first *Siclus or activity*, decreased to 5 students or increased by 7 students or 25%. Enthusiasm that got a D in Siclus or activity I there were 6 students decreased by 2 students in *Siclus or activity* II or experienced an increase of 4 students or 14.29%.

The self-confident activity in *Siclus or activity* I that got very good scores (A), there were 4 students, an increase in *Siclus or activity* II to 10 students or an increase of 6 people or 21.43%. There are 4 students who get good grades (B) and an increase in *Siclus or activity* II to 8 students or an increase of 4 students or 14.29%. Believe that there were 15 people who got a C grade in *Siclus or activity* I, decreased to 8 students or increased by 7 students or 25%. There were 5 students who scored a D in *Siclus or activity* I, decreased by 2 students in *Siclus or activity* II or increased by 3 students or 10.72.

Related to the data above, student activities in participating in learning activities both interactions, enthusiasm and confidence lead to a better improvement. Thus, the learning media of simple teaching aids that are guided by the *discovery* learning model can increase student activity in learning activities, especially increasing student interaction, enthusiasm and confidence in learning activities of human blood circulation material.

Group work activities to be measured or assessed are the presentation of group work results, truth and tidiness, working together on assignments. The recap of group work results in *Siclus or activity* I and II can be seen in table 3 below.

Table 3 Recapitulation of Learning Outcomes of student's work in pairs in *Siclus or activity* I and II

Siclus or activity	Group	Presentation	Truth and tidiness	Cooperation	Score	Score	Conversion
I	Rose	2	2	1	5	56	C
	Jasmine	1	1	1	3	34	C
	Orchid	3	2	2	7	78	C
	Cycad	2	2	2	6	67	C
	Average					59	C
II	Rose	3	3	2	8	89	B
	Jasmine	2	2	2	6	67	C
	Orchid	3	3	2	8	89	B
	Cycad	3	3	2	8	89	B
	Average					84	B

Related to Table 3 above in the activity of *Siclus or activity* I, the work of the rose group in the presentation activity received a value of 2, for the correctness of the answer, it got a value of 2 and cooperation got a value of 1 so that the number of scores obtained by Mawar's group was 5 after entering the formula for the value obtained 56. In *Siclus or activity* II the rose group experienced an increase in the presentation of group work wi *Siclus or activity* th a score of 3, correctness and neatness of answers got a score of 3 and cooperation in doing assignments got a score of 2, the total number of scores obtained was 8 or 89

In *Siclus or activity* activities, the group's work on presentations jasmine gets a value of 1, for the truth of the answers get value 1 and cooperation to get value 1 so that the number of scores obtained by two groups of three after inserted formula is the

value obtained 34. In *Siclus or activity* II, the jasmine group experienced an increase in the presentation of group work results with a score of 2, correctness and neatness of answers got a score of 2 and cooperation in doing assignments got a score of 2, the total number of scores obtained was 6 or 67.

In *Siclus or activity* I activities, the work of the orchid group in the presentation activity received a score of 3, for the correctness of the answer, it was obtained a value of 2 and cooperation received a value of 2 so that the number of scores obtained by group three was 7 after entering the formula for the value obtained 78. In *Siclus or activity* II the Orchid group experienced an increase in the presentation of group work results got a score of 3, correctness and neatness of answers got a score of 3 and cooperation in doing assignments still got a score of 2, the total number of scores obtained was 8 or 87

In the first Siclus or activity of activities, the work of the cycad group on the presentation activity received a score of 2, for the correctness of the answer, it got a value of 2 and cooperation got a value of 2 so that the number of scores obtained by group three was 6 after entering the formula for the value obtained by 67. In the second Siclus or activity the rose group experienced an increase in the presentation of group work with a score of 3, correctness and neatness of answers got a score of 3 and cooperation in doing assignments still got a score of 2, the total number of scores obtained was 8 or 89.

Seeing the results of student activities in Siclus or activity I and Siclus or activity II when group work activities have increased quite well. That needs special attention is the work activities together in a task, from the observations there are still students who do not joint in group discussion activities, it still looks students busy with their own activities such as talking to your seatmate or just seemingly silent.

If you look at the score of the average - average in the first Siclus or activity gets value 59 and the second Siclus or activity gets the value of 84, based on the average - average of the value of learning to use the media props simple results knowledgment of a guided learning model *discovery* is considered good enough.

In this study to see the results of mastery learning there are two categories: individual and classical. This refers to the implementation guidelines for teaching and learning in the 1994 curriculum (Depdikbud, 1994), namely " a student has completed learning if he has reached a score of 65% or a value of 65 or above the KKM that has been determined, and the class is called complete learning when in that class. There are 85%".

Regarding completeness on individual student learning outcomes, the results of the assessment activities in Siclus or activity I and II can be seen in table 4 below:

Table 4. The results of the learning activities of *Siclus or activity* I and II students

Description of Value	Meeting results			
	Siclus or activity I	%	Siclus or activity II	%
Completeness Classical	11	39.29	22	78.58
Not complete	17	60.71	6	21.42
Total Value	1615		2,060	
Average	57.68		73.57	

Regarding the completeness of individual student learning outcomes, the results of the first Siclus or activity assessment activities were 17 students who did not complete or 60.71%. The completeness percentage of 57, 68 are still very far from the target of 85% of the completion target. The number of students who do not complete this learning activity is because students are still confused in participating in learning

activities, and following new learning models. The deficiencies in learning activities in Siclus or activity I were corrected during reflection.

Activities in Siclus or activity II of the results of learning evaluation, students who do not complete there are 6 students or 21, 42. While students who completed the learning activities were 22 students or 78, 57 %, with an average score of 73.57. Seeing the results of these activities have increased, from 17 students who did not complete in Siclus or activity I to 6 students who did not complete in Siclus or activity II, this shows an increase in 11 students who completed or 39.29%. The percentage of completeness in Siclus or activity I was 42 , 86 and in Siclus or activity II was 78.57, an increase of 35.74, while the class average in Siclus or activity I was 57.68 and in Siclus or activity II it was 73.57 increased by 15.89.

Seeing the results of these data, the results of the assessment in Siclus or activity II have increased significantly, although the target has not reached 85% completeness, the results of this learning activity are considered to be going well. So that the observer and the researcher concluded that learning using simple teaching aids guided by the *discovery* learning model could improve student learning outcomes, especially in class V science learning and human blood circulation learning materials.

Discussion

The results of the recap of observations during the learning process take place from Siclus or activity I to Siclus or activity II can be seen in table 5 below:

Table 5. Recapitulation of Siclus or activity I and II Results Data

Character dimensions	Score	Meeting Results			
		SI	%	SII	%
Presentation	A	3	11%	10	36%
	B	3	11%	9	32%
	C	18	64%	7	25%
	D	4	14%	2	7 %
Enthusiastic	A	4	14%	15	54 %
	B	6	21%	6	21 %
	C	12	44 %	5	18%
	D	6	21%	2	14%
Confidence	A	4	14%	10	36%
	B	4	14%	8	29%
	C	15	54%	8	29%
	D	5	18%	2	14%
Learning together	Presentation	8	67	11	92
	Truth and neatness	7	58	11	92
	Cooperation	6	50	8	67
Learning outcomes	Average value	58		74	
	Completeness	11	39%	17	61%

Diagram 1. Schematic of Student Activity Graph Siclus or activity I and II
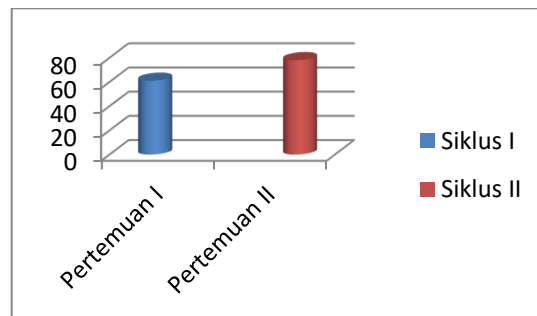
From diagram above, the average - average activity overall student on the graph shows an increase in the students' learning activities. Of the first Siclus or activity and siclus II value - average student activity has increased quite well, the first Siclus or activity the value of the average - average obtained at 61 has increased in the second Siclus or activity of 77 means that the overall activity of the activities of students showed trend positive. Thus props simply the result of development and learning model *the discovery* can enhance students' learning activities in the review of aspects of the interaction, responsibility and confidence. The better student activities in participating in learning activities are expected to be directly proportional to student learning outcomes.

Furthermore, the results of group work can be seen in diagram 1 below:

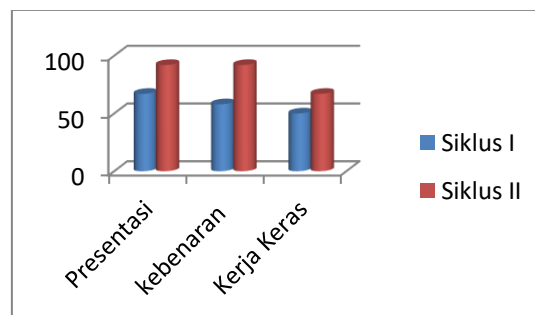**Diagram 2. Graph Schematic of Group Work Value Recap Siclus or activitys I and II**

Figure 4. 2 of the graph above shows the increase in the results of group work carried out by students from the first to second Siclus or activity meetings. Group work activities on the *truth* aspect of *the answer* to the first meeting (P1) 66.67%, increased at the second meeting (P2) 86.67%, again increased at (P3) 93% and so also at the P4 meeting (100%). Whereas in the aspect of being *on time* in collecting tasks at the first meeting (P1) 73.33%, at the second meeting it increased 86.67% and again it increased at the third meeting to 100% as well as at the fourth meeting or P4 100% . For the aspect of cooperation at the first meeting 40%, increasing at the second meeting (P2) to 66.67%, the third meeting being (P3) 93% increasing back in the P4 meeting to 100%. The increased results obtained in group work activities show that the *discovery* learning model used in science learning with human blood circulation material can be said to be appropriate and appropriate.

For student learning outcomes, it can be seen in diagram 3 below:

Diagram 3. Schematic of the Recap of the Learning Outcomes of Siclus or activity I and II
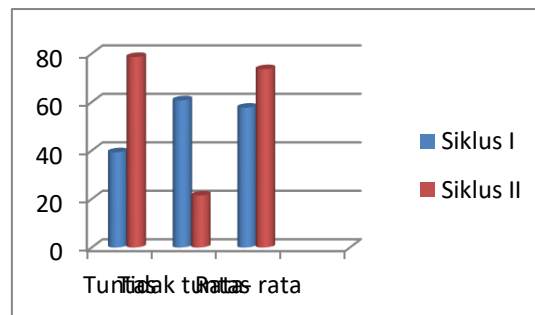

Diagram 3 Graphic that showed increased results in the classical learning process, the average value of formative tests and number of students who pass the study of initial conditions, the Siclus or activity I. The mean of formative tests on Siclus or activity I got 58, have increased in the second Siclus or activity becomes 74

Classical learning completeness in Siclus or activity I 39 % or the equivalent of 1 1 student who completed, in Siclus or activity II there was an increase in 17 students who completed or 61 %

The increase in mean value and learning completeness is of course supported by an interesting and fun learning process for students. This is evidenced by the increasing learning outcomes of each meeting, yes; it shows that the use of simple media tools and learning using the *discovery* model is appropriate and appropriate when used in science pre-learning activities with living and life material. So from the formulation of the problem posed:

1. Can using the *discovery* learning model improve the science learning activity of human blood circulation material for students of SDN 04 Kotabumi Udik in 2018?
2. Can using simple media aids the results of development can improve learning outcomes science subject matter human blood circulation in grade V SDN 04 Kotabumi Udik in 2018?

The answer to the formulation of the problem to the one that the model learning *discovery* that use in science learning activities on human blood circulation materials can improve the learning activities of students either individually or in groups. This is evidenced by the research data on aspects of student activity that are the focus of research which has increased quite well.

Based on the results of the research mentioned above, the formulation of the problem to two can be answered that Product development in the form of props simple view of the human circulatory system is sound and can improve learning outcomes fifth grade students at SDN 04 Kotabumi Udik. Thus, product simple props development of the human circulatory system can be used to help students understand the material in the human circulatory system quickly and easily.

CONCLUSION

Based on the results of research and discussion, researchers can conclude the following: 1. there is an increase in science learning activities in human blood circulation material in grade V SDN 04 Kota Bumi Udik, North Lampung in 2018... 2. An increase of the tenderloin i l learn science materials on the human circulatory fifth grade students of SDN 04, Kotabumi Udik North Lampung in 2018.

REFERENCES

Ahmad, Ilman. 2016. Paper on Developmental Psychology. http://nurrohmanbudi.blogspot.com/materi-pendidikan-agama-islam-kelas-vii.html. Retrieved December 15, 2018

Arikunto, S. 2002. *A Practice Research Procedure.* Rineka Cipta, Jakarta.

_____. 2009. *Basics of Educational Evaluation Edition 2.* Earth Literacy Jakarta

_____. 2010. *Research Procedure A Practice Approach.* Rineka Cipta, Jakarta.

Asmarawati, Endah. 2016. *The Process of Integrating Social and Spiritual Attitudes in Mathematics Learning in Class VII Students of SMP Negeri Purwodadi District.* Journal of Electronic Mathematics Learning *a* Vol. 4 No.1. 58-69.

Bafadal, Ibrahim. 2016. Technical Guidelines: *Learning and Assessment in Primary Schools.* Ministry of Education and Culture, Jakarta.

Budinigsih. 2005 *model* paper - *learning models.* www.Eka salahudin.net learning discovery learning model. Retrieved December 15, 2018

Made Putrayasa et al. 2014. *The Effect of Learning Model Discovery Learning and Learning Interest on Science Learning Outcomes.* PGSD Pulse Journal Vol 2 No.1. Pages 10 – 17.

Majid, A. 2007. *Learning Planning and Developing Teacher Competency standards.* PT Remaja Rosdakarya, Bandung.

Prastowo, A. 2013. *Creative Guide to Making Innovative Teaching Materials.* Diva Press, Yogyakarta.

Sudjana , N.1991 *Assessment of Teaching and Learning Process Results.* Rosdakarya: Bandung

Sugiyono. 2013. *Educational Research: Quantitative, qualitative and R&D approaches.* A LFA Beta, Bandung.

Sukmadinata. 2013. *Fish Education Research Methods.* PT Remaja Rosdakarya, Bandung. Wasis & SY Irianto. 2008. *Natural Sciences.* Bookkeeping Center of the Ministry of National Education, Jakarta.

Widiyatmoko et al. 2012. *Project-Based Learning to Develop Science Teaching Aids Using Used Materials* i. Indonesian Science Education Journal Vol 1 No.1JPII. pp. 51-56.