Analysis of the Application of the Picture and Picture Learning Model in View of the Activeness of Students in the Science Subject of Grade IV Elementary School

Maissy Diana Rukmana[1*], Meirza Nanda Faradita[2], Lilik Binti Mirnawati[3]
[1*,2,3] Elementary School Teacher Education , Muhammadiyah University Surabaya, Indonesia
maissy.diana.rukmana-2021@fkip.um-surabaya.ac.id , meirzananda@fkip.um-surabaya.ac.id , lilikbintimirnawati@fkip.um-surabaya.ac.id

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Abstract

This study aims to analyze the application of the picture and picture learning model seen from the activeness of students. This type of research uses descriptive qualitative research methods with semistructured interview techniques. Data collection techniques used interview instruments given to class IV teachers and instruments distributed to observers to observe the activities of fourth grade students at SD Muhammadiyah 19 Surabaya. Based on the results of teacher interviews, the use of the picture and picture learning model makes students active in the learning process. Meanwhile, based on the results of the activity questionnaire, the average student from observations made by the observer obtained a percentage of 87.74% in the very active category, indicating that the results of student activities obtained a percentage of 81% -100%, being very active . It can be concluded that the picture and picture learning model makes students active in learning.

Keywords – Picture and Picture Learning; Activity; Science

1. Introduction

In Indonesia education is one of the most important efforts in determining a person's future in a better direction. Education can shape and hone a person's talents. According to Muhibbin (2013) education means nurturing and giving training. In nurturing and giving training it is necessary to have teachings, guidance, and leaders who know morals and intelligence. Success or failure in achieving educational goals is very dependent on the learning process experienced by students. Therefore, a correct understanding of the meaning of learning in all aspects and forms is needed by students, especially teachers. Students' confusion about the learning process and related matters will result in less quality learning outcomes to be achieved by students. Analysis of the problems involved in learning activities is carried out for. Analysis of the problems involved in learning activities is carried out to provide solutions to learning problems. These problems apply to factors that affect learning outcomes. There are many types of factors that affect learning outcomes, but they can be classified into two, namely internal factors and external factors. Internal factors are factors that exist within individuals who are learning, while external factors are factors outside of school (Slameto, 2010).

Science learning is learning in Elementary Schools (SD). In Permendikbud RI No 58 of 2014 it is stated that science is seen as a way of thinking to understand nature, conduct investigations, and collect knowledge. One of the materials in science subjects is plant reproduction. Plant propagation is divided into two, namely generative plant propagation and vegetative propagation. Generative propagation discusses the natural reproduction of plants. In the generative learning process of plant propagation, students are less actively involved in classroom learning. According to Farliani, et al (2015) said that science education is expected to be a vehicle for students to learn about themselves and the natural surroundings. Agree with the opinion of Mawardi & Sari (2015) saying that it is necessary to create conditions for learning science in elementary schools to encourage students to be active and curious. Science as a process means a way

of thinking and acting to deal with or respond to problems in the environment, according to Haqul (2016). Teachers can use learning methods that can require the involvement and active role of students in observing, applying concepts and communicating or what is called active learning.

Student activity greatly influences the success of the student learning process in class. Student activity during the learning process in class can be seen from student activities carried out during the learning process, such as visual activities, namely reading, paying attention to demonstration pictures, experiments, oral activities, namely stating, formulating, asking questions, giving suggestions, issuing opinions and holding interviews and discussions. listening activities namely listening to: conversations, discussions and speeches, writing activities namely writing stories, essays, reports, questionnaires and copying, drawing activities namely making graphs, maps and diagrams, motor activities namely conducting experiments, making constructions and playing, mental activities namely responding, remembering, solving problems, analyzing and making decisions as well as emotional activities, namely taking an interest, feeling bored, happy, excited, passionate, calm (Sardiman, 2012).

Active learning is a learning that invites students to learn actively. When students learn actively, it means they dominate the learning activity. They actively use their brains both to find the main idea of the subject matter, solve problems or apply what they just learned to a problem that exists in real life (Hisyam, 2008). In active learning, students must be active to think logically, apply ideas, solve problems and instill concepts. Students are invited to be active in the learning process, namely in expressing ideas, answers and also actions. Students will use their own thoughts and ideas instead of just fixating on what the teacher says and does. According to Mulyasa, active learning is learning that involves more student activities in accessing various information and knowledge to be discussed and studied in the learning process in the classroom so that they get various experiences that can improve understanding (Mulyasa, 2006).

. According to Silberman in Rusman (2013) suggests many ways that can make students learn actively which he calls active learning tools, namely classroom layouts, methods of activating students, student partnerships, analyzing student needs, arousing student interest, understanding and involving students in learning activities, forming study groups, selecting assignments, and appropriate strategies, facilitating discussions, experimental activities, role playing, saving time and controlling excess student activity.

According to Suprihatiningrum (2014) learning models have a broader meaning than strategies, methods or procedures. The learning model can also function as an important means of communication in teaching in the classroom. The learning model has supporting components, namely concepts, learning objectives, material or themes, steps or procedures, methods, tools or learning resources, and evaluation techniques. In ongoing learning activities by establishing an appropriate learning model to optimize child development, it provides a change in the child and in the atmosphere of learning activities. So that the learning model is a broader pattern or design of strategies, methods or procedures as a means of communication in learning.

The Picture and Picture Learning Model is a cooperative learning model. The Picture and Picture learning model is a learning method that uses pictures and is paired or sorted into a logical sequence. This learning has the characteristics of Active, Innovative, Creative, and Fun. The Picture and Picture Learning Model relies on pictures as media in the learning process. These pictures become the main factor in the learning process. So that before the learning process the teacher has prepared images that will be displayed either in the form of cards or in the form of stories in large size (Fansury, 2017).

The advantages of the Picture and Picture Learning Model are that the material taught is more focused because at the beginning of the lesson the teacher explains the competencies that must be achieved and the material briefly first, while the other advantages are; 1) students grasp material faster because the teacher shows pictures of the material being studied, 2) can increase

students' reasoning or thinking power by analyzing existing pictures, 3) can increase student responsibility, because the teacher asks why students sequence pictures, 4) Learning is more memorable, because students can directly observe the pictures that have been prepared by the teacher (Eka Yusnaldi, 2013). The teacher uses image media, it is hoped that students will be able to follow the lesson with good focus and in pleasant conditions. Messages conveyed by the teacher can be well received and able to absorb quickly and can be recalled by students and can stimulate students' interest in learning (Yesi, 2015).

Based on the results of interviews conducted with SD Muhmmadiyah 19 Surabaya teachers, the problem that occurs in class during lessons is that when the learning process begins, most students do not pay attention to the teacher in explaining learning. Students are also not actively involved in the learning process taking place, this makes the teacher have to innovate so that students are actively involved in every learning process that takes place. Based on the study of theory and problems that occur in SD Muhammadiyah 19 Surabaya, the purpose of this study is to analyze the application of the picture and learning model picture seen from the activeness of students in class IV Science subjects. It is hoped that this research can improve educational institutions to apply the picture and picture learning model in the learning environment at the elementary level.

2. Method

This type of research uses descriptive qualitative methods with semistructured interview techniques. According to Sugiyono (2016) the semistructured interview method is an in-dept interview category that aims to find problems more openly, informants are asked for opinions, and ideas in analyzing the application of the picture and picture seen from the activeness of students. The subjects of this study were class IV teachers and fourth grade students at SD Muhammadiyah 19 Surabaya. The data collection technique uses interview instruments that will be given to class IV teachers and instruments that are distributed to observers to observe the activities of class IV students. Data analysis in this study used the Miles and Huberman model (Sugiyono

2016). The steps for data reduction, data display, and verification. This step can be done at any stage in the qualitative process.

Analysis of the results of student activity instruments is used to provide an overview of the activities carried out by students. All student activities in learning using the picture and picture learning model are observed and recorded by observers during the activity. The percentage of this instrument data is obtained using the following formula:

$$\textit{Percentage (\%)} = \frac{jumlah\ skor\ hasil}{Skor\ Kriteria} \text{x } 100\%$$

The percentage of this questionnaire data is obtained based on the Likert scale calculation in the following table.

Table 1. Likert Scale of Student Activity

Score	Evaluation
1	Very Inactive
2	Less Active
3	Moderately Active
4	Active
5	Very active

(Riduwan, 2016).

The results of the analysis of student activity instruments by observers are interpreted into the criteria contained in the following table.

Table 2. Criteria for Interpreting Student Activity Scores

PERCENTAGE (%)	CATEGORY
0-20	Very Inactive
21-40	Less Active
41-60	Moderately Active
61-80	Active
81-100	Very active

(Riduwan, 2016).

The results of the analysis of student activity instruments are said to be active if the percentage of achievement is $\geq$61%.

3. Result and Discussion

Based on the purpose of this study is to analyze the application of the picture and picture learning model seen from the activeness of students at SD Muhammadiyah 19 Surabaya. In the learning process the researcher used the syntax of the picture and picture learning model. The syntax used is introduction, exploration, elaboration, confirmation, and closing. From the results of data reduction obtained by giving student activity sheets to the observer. Student activity instruments are given to observers to observe how active students are in the picture and picture learning model during the learning process. Observation of student activities was carried out by 2 observers. The number of students who will be observed by the observer is as many as 17 students in class IV.

After obtaining the data from the research instrument on the activities of the students, the researcher added up each answer from the observer, which can be seen in Table 3 as follows.

Table 3. Student Activity Instrument Results

Aspect	STA	ka	ca	A	SA
Respond to greetings, condition yourself, and pray together	0	1	3	8	5
Pay attention and respond to the apperception conveyed by the teacher	1	1	2	6	7
Recall previously learned material	0	0	2	8	7
Responding to questions posed by the teacher	0	0	2	4	11
Pay attention to the learning objectives conveyed by the teacher	0	1	1	7	6
Ready and organized in group division	0	0	2	6	9
Observing the presentation of pictures submitted by the teacher	0	0	1	5	11
Discuss by taking turns sorting and pairing the existing pictures with the group	0	0	0	8	9
Present the results of the discussion	0	0	2	3	12
Responding to friends' opinions when conveying the results of the discussion	0	0	2	4	11

Aspect	STA	ka	ca	A	SA
Reviewing and making conclusions with the teacher regarding the material being studied	0	0	1	7	9
Pray together and answer greetings from the teacher	0	0	1	8	8
Amount	1	3	19	74	105

Based on the results of the analysis of student activity instruments by the observer interpreted into the criteria contained in table 4 as follows.

Table 4. Interpretation of Student Activity Results

Aspect	P(%)	Category
Respond to greetings, condition yourself, and pray together	80	Active
Pay attention and respond to the apperception conveyed by the teacher	80	Active
Recall previously learned material	85,88	Very active
Responding to questions posed by the teacher	90.58	Very active
Pay attention to the learning objectives conveyed by the teacher	85,88	Very active
Ready and organized in group division	88,23	Very active
Observing the presentation of pictures submitted by the teacher	91.76	Very active
Discuss by taking turns sorting and pairing the existing pictures with the group	90.58	Very active
Present the results of the discussion	91.76	Very active
Responding to friends' opinions when conveying the results of the discussion	90.58	Very active
Reviewing and making conclusions with the teacher regarding the material being studied	89.41	Very active
Pray together and answer greetings from the teacher	88,23	Very active
Average	87,745	Very active

Based on the data in Table 4, there are 10 aspect indicators. In the first aspect, namely responding to greetings, conditioning yourself, and praying together, the percentage is 80% in the active category. The second aspect is

paying attention to and responding to the appreciation conveyed by the teacher, obtaining 80% in the active category. The third aspect is recalling material that has been previously studied, obtaining a percentage of 85.88% in the very active category.

The fourth aspect of responding to the questions posed by the teacher obtained a percentage of 90.58% in the very active category. The results obtained are in accordance with the opinion of Faizal, et al (2022), namely students are able to give other examples that are in accordance with the material presented by the teacher, students actively ask questions when the teacher explains.

The fifth aspect pays attention to the learning objectives conveyed by the teacher obtaining a percentage of 85.88% in the very active category. The sixth aspect is ready and organized in group division, obtaining a percentage of 88.23 % in the very active category.

The seventh aspect observes the presentation of the pictures conveyed by the teacher obtaining a percentage of 91.76% in the very active category. The results obtained are in accordance with the opinion of Pebriana, et al (2017) stating that visual knowledge is also applied in this learning model, namely students are expected to be able to think through pictures that are sorted according to the material will train the level of students' thinking skills through pictures without being accompanied by text. In the process of presenting the material, the teacher teaches students to be actively involved in the learning process by observing each picture shown by the teacher or friends.

The eighth aspect discusses by taking turns sorting and pairing the existing pictures with the group obtaining a percentage of 90.58% with the very active category . The results obtained are in accordance with the opinion of Luh & Lukman (2017) stating that in the teaching and learning process, most teachers are only fixated on textbooks as the only source of teaching. Therefore, teachers should be more creative in carrying out the teaching and learning process. There are many learning models that teachers can use to support classroom learning. The Picture and Picture learning model is included in cognitive learning theory,

because in the learning process it involves a lot of students and works in groups, so that not only the teacher is active but the students are also active. Documentation can be seen in Figure 1 as follows.

Figure 1 . Group discussion documentation

The ninth aspect presents the results of the discussion obtaining a percentage of 91.76% with a very active category . When presenting the results of the discussion all group members were very actively involved in conveying it in front of the class. The results obtained are in accordance with the opinion of Pebriana, et al (2017) who say that the same thing is that in Picture and Picture learning students are required to be responsible for everything that is done in their group. Documentation can be seen in Figure 2 as follows.

Figure 2. Presenting the results of the discussion

The tenth aspect of responding to friends' opinions when conveying the results of the discussion obtained a percentage of 90.58% in the very active category. The results obtained show that students are very actively involved when answering any opinions given by friends or other groups. This is in accordance

with the opinion of Trianto (2014) which states that observing pictures encourages students to think systematically logically. Train students' courage in expressing opinions and instilling the value of equality in groups.

The eleventh aspect of reviewing and making conclusions with the teacher regarding the material being studied obtains a percentage of 89.41% in the very active category. According to Mirnawati (2017), in carrying out teaching and learning activities both educators and lecturers must be able to choose various learning methods or models that are appropriate to the material in order to make the learning process more varied, active, innovative, effective and enjoyable. Documentation can be seen in Figure 3 as follows.

Figure 3. Review and draw conclusions

The twelfth aspect of praying together and answering greetings from the teacher obtained a percentage of 88.23% in the very active category. The average of the observations made by the observer obtained a percentage of 87.74% with the very active category indicating that the results of student activities obtained a percentage of 81% -100% with the very active category . The results obtained show that learning science in generative reproduction using the picture and picture learning model makes students very actively involved in the learning process. This is in accordance with the opinion of Eko & Eunice (2018) that learning science using the Picture and model Pictures can provide opportunities for students to think and find their own understanding of science learning accompanied by discussions with friends and sharing knowledge. The advantages of the Picture and Picture model include, students more quickly grasp material

through pictures, can increase students' reasoning power through sequencing pictures, students are more confident in conveying their work in front of them. Classes and students are more responsible for giving reasons in the sequencing of pictures.

Of the several advantages above, all have been implemented in this study, but have not fully run optimally. The weaknesses of the Picture and Picture model include that it is difficult for students to sort the pictures that match, takes more time, the teacher controls the class, and requires support for equipment and financial facilities. In this study, research can overcome these weaknesses even though it has not run optimally.

While the results of interviews with informants, namely class IV teachers at SD Muhammadiyah 19 Surabaya. Documentation during the interview can be seen in Figure 2 as follows.

Figure 4. Interview Documentation with Class IV Teachers

The results of interviews that have been conducted with class IV teachers are presented in Table 5 as follows.

Table 5. Teacher Interview Results

Aspect	Description
What do you know about the picture and picture learning model?	Picture and picture model learning is one of the cooperative learning models, where this model uses pictures and is paired or sequenced.

Aspect	Description
Do you know the syntax of the picture and picture learning model?	There are 5 syntaxes in the picture and picture learning model, namely; 1) Introduction, 2) exploration, 3) elaboration, 4) confirmation, 5) Closing.
Is learning effective when using the picture and picture learning model?	Using the picture and picture learning model is very effective because students become active, responsible, think and reason, grasp material faster, and learning outcomes increase. The learning objectives that have been planned are successful and achieved.
Does each subject use the picture and picture learning model?	Only a few subjects use picture and picture model learning.
What are the student activities during the learning process applying the picture and picture learning model?	All students are very active both in communicating with teachers and friends during learning. Students also quickly grasp the subject matter by using the picture and picture learning model.
What is the mastery of student learning outcomes in science material when applying this picture and picture model?	The picture and picture learning model greatly influences student learning outcomes, where students experience an excellent increase in learning outcomes in several subjects that use the picture and picture learning model.
What are your obstacles while using the picture and picture learning model in this class?	Requires a long time in learning, chaos and not conducive

Based on the results of Table 4 of the teacher interview, there are 10 aspects of the questions given. The questions on the teacher interview instrument include the picture and picture model. According to Faradita (2017), the cooperative learning model was developed to achieve learning outcomes in the form of academic achievement, tolerance, accepting diversity, and developing answering skills. case studies for them how to solve them and students can defend their opinion if they already believe in it. The results of the entire interview are in accordance with Kharis's relevant research statement (2019) that the implementation of using the picture and picture learning model

can affect the activity of students. According to Yuliana, et al (2015) who said that through image media, it can attract students' interest to be actively involved in the learning process, besides that visual image media can facilitate the delivery of abstract concepts so that they are better understood by students. The final step, namely data verification, can be concluded that learning using the picture and picture model is very influential, seen from the activeness of students during learning taking place at SD Muahmmadiyah 19 Surabaya.

4. Conclusion

Based on the results of the discussion obtained, it was concluded that the results of the analysis of the application of the picture and picture learning model were very influential in terms of the activeness of the students. In the science class IV SD subject, the respondents received positive responses from the activeness of the students in using the picture and picture learning model at Muhammadiyah 19 Elementary School, Surabaya. The results of the interviews obtained from the teacher can be concluded that learning using the picture and picture learning model makes students active in learning.

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