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Improving Science Learning Outcomes On Special Characteristics Of Living Animal Creatures Through The Jigsaw Method In Class Vi Students Of SDN 019 Tanjung Sawit, Tapung District

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Abstrak
Tujuan dari penelitian ini adalah untuk mengetahui peningkatan hasil belajar IPA materi ciri-ciri khusus makhluk hidup hewandengan metode jigsaw pada siswa kelas VI SDN 019 Tanjung Sawit, Tahun 2022. Jenis penelitian ini adalah Penelitian Tindakan Kelas (PTK).Subyek penelitian adalah siswa kelas VI SDN 019 Tanjung Sawit yang berjumlah 16 siswa terdiri dari 6 laki-laki dan 10 perempuan. Berdasarkan hasil pelaksanaan penelitian,peneliti menyimpulkan bahwa metode jigsaw dapat meningkatkan prestasi belajar pada siswa kelasVI materi ciri-ciri khusus makhluk hidup hewan di SDN 019 Tanjung Sawit Tahun Pelajaran 2022/2023. Peningkatannilai rata-rata kelasnaikdari 65(prasiklus)menjadi 85 dan PTK ini dianggap berhasil. Kepada semua guru di SDN 019 Tanjung Sawit Kecamatan Tapung dalam usaha meningkatkan pemahaman belajar siswa dapat menggunakan metode jigsawv dengan pendekatan CTL (Contextual Teaching Learning dalam proses belajar mengajar.

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Abstract
The aim of this research is to determine the improvement in science learning outcomes regarding special characteristics of living animals using the jigsaw method in class VI students at SDN 019 Tanjung Sawit, 2022. This type of research is Classroom Action Research (PTK). The research subjects are class VI students. SDN 019 Tanjung Sawit has 16 students consisting of 6 boys and 10 girls. Based on the results of the research, the researchers concluded that the jigsaw method could improve learning achievement in class VI students on the special characteristics of living animals at SDN 019 Tanjung Sawit for the 2022/2023 academic year. The average class score increased from 65 (pre-cycle) to 85 and this PTK was considered successful. To all teachers at SDN 019 Tanjung Sawit, Tapung District, in an effort to improve students' understanding of learning, they can use the jigsaw method with the CTL (Contextual Teaching Learning) approach in the teaching and learning process.

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1. INTRODUCTION

Natural Sciences (IPA), which is often referred to as Science Education, is abbreviated to IPA. Science is one of the main subjects in the education curriculum in Indonesia, including at the elementary school level. Science subjects are subjects that have been considered difficult by the majority of students, from elementary school to middle school. This is the opinion of the majority of students stating that science lessons are difficult is true, as proven by the results of the Final School Examination (UAS) results reported by the Ministry of National Education which are still very far from the expected standards. Ironically, the higher the level of education, the higher the average UAS score for science education. low. This is proven by the decline in science subject

scores in the 2022/2023 academic year, in fact those with higher levels of education, especially junior high school or high school graduates, experience a decline in UAS scores.

One of the problems facing the world of education today is the problem of weak implementation of the learning process implemented by teachers in schools. The learning process that has occurred so far has not been able to develop students' thinking abilities. Implementation in class is only directed at students' ability to memorize information, students' brains are forced to only remember and accumulate various information without being required to understand the information obtained to relate it to situations in everyday life.

In the teaching and learning process, most teachers only focus on textbooks as the only source of teaching and learning. Another weakness in science learning is the problem of learning assessment techniques that are not accurate and comprehensive. The assessment process carried out so far has only focused on mastery of concepts captured using objective and subjective written tests as measuring tools. With this method of assessment, it means that the tests carried out by teachers only measure mastery of the material and that only covers low-level cognitive domains. This kind of situation is an indication of weaknesses in learning at school.

The main cause of these learning weaknesses is because most teachers do not carry out learning activities that focus on developing science process skills in children. In the end, this kind of situation causes learning activities to be carried out only centered on the delivery of material in textbooks. Situations like this also encourage students to try to memorize every time a daily exam or study results test is held, both mid-semester exams (UTS) and end-of-semester exams (UAS).

According to Marjono (1996), the thing that must be prioritized is how to develop their curiosity and critical thinking power regarding a problem. Science or natural science is a human effort to understand the universe through precise observations on targets, and using procedures, and explained by reasoning. so as to reach a conclusion. In this case, teachers, especially those who teach science in elementary schools, are expected to know and understand the nature of science learning, so that in science learning teachers have no difficulty in designing and implementing learning. Students who do the learning also do not have difficulty understanding science concepts.

The nature of science learning, which is defined as the science of nature, which in Indonesian is called natural science, can be classified into three parts, namely: natural science as a product, process and attitude. Of these three components of science, Sutrisno (2007) added that science is also a procedure and science is a technology. However, this addition is a development of procedures from processes, while the technology is from the application of natural science concepts and principles as products.

The attitude in learning science in question is a scientific attitude. So, by learning science in elementary school it is hoped that it can foster a scientific attitude like a scientist. The types of attitudes in question are: curiosity, self-confidence, honesty, unhurriedness, and objectivity towards facts. First, natural science as a product, namely a collection of research results that scientists have carried out and have formed concepts that have been studied as empirical activities and analytical activities. Second, natural science as a process, namely to explore and understand knowledge about nature. Third, natural science as an attitude. A scientific attitude must be developed in science learning.

From the description of the nature of science above, it can be understood that science learning is learning based on principles, a process which can foster students' scientific attitudes towards science concepts. Therefore, science learning in elementary schools is carried out with simple investigations and not memorizing a collection of science concepts. With these activities, science learning will gain experience, discussion and simple investigations. Such learning can foster students' scientific attitudes which are indicated by formulating problems, drawing conclusions, so that they are able to think critically through science learning.

Science learning in elementary schools is known as natural science (IPA) learning. The concept of science in elementary schools is a concept that is still integrated, because it has not been transferred separately, such as chemistry, biology and physics subjects. With the science learning process which emphasizes providing experience By studying directly, it is hoped that students can develop their potential in exploring and understanding the natural surroundings scientifically. To improve understanding of science concepts, students need to get used to solving problems, finding things for themselves and struggling with ideas.

Thus, teachers must be clever in using appropriate and interesting learning models in the science learning process and can also be used to improve student learning outcomes, especially in science subjects. The use of the jigsaw method with the CTL approach is expected to improve student learning outcomes. It is hoped that understanding the jigsaw method with the CTL approach can help teachers link the material being taught with participants' real-world situations and facilitate student learning in a more meaningful way.

A. Improved Learning Outcomes

Some lay people assume that it is called learning if the learner (student) succeeds in memorizing the facts stored in the textbook or teacher's teachings. Parents feel proud if their children succeed in expressing verbally some or all of the contents of the textbook, even though they do not understand the good values stored in it. Their parents' targets usually focus on the symbolic aspects of numerical values which are quantitative in nature only. So if a child gets a number symbol higher than the KKM (Minimum Completeness Criteria), then the child is considered successful in learning, but if it is still below the KKM, it means they are considered a failure.

Referring to various definitions expressed by learning psychology experts, it can be concluded that learning is defined as a relatively steady stage of change in an individual's behavior as a result of his experience interacting with the environment around him and the training that is reinforced by it. So, from the definition of learning above, it can be concluded that learning causes a change in behavior that is relatively permanent, and this change differentiates between the situation before the individual is in a learning situation and after carrying out learning activities.

Based on the description of the concept of learning above, one can understand the meaning of learning outcomes, namely the changes that occur in students, both regarding cognitive, affective and psychomotor aspects as a result of learning activities. The understanding of learning outcomes as described above is emphasized again by Nawawi in K. Brahim (2007: 39) who states that learning outcomes can be interpreted as the level of success of students in studying subject matter at school which is expressed in the scores obtained from the results of tests on knowing a number of materials. certain lessons.

In simple terms, what is meant by student learning outcomes are the abilities that children gain after going through learning activities. Because learning itself is a form of behavior change that is relatively permanent. In learning activities or instructional activities, teachers usually set learning objectives. Children who are successful in learning are those who succeed in achieving learning goals or instructional objectives.

According to Gestalt theory, learning is a developmental process. This means that naturally a child's body and soul is something that comes from the student himself or the influence of his environment. Based on this theory, student learning outcomes are influenced by two things, the students themselves and their environment. First, students; in terms of thinking ability or intellectual behavior, motivation, interest and student readiness, both physical and spiritual. Second, the environment; namely facilities and infrastructure, teacher competence, teacher creativity, learning resources, environmental, family and environmental methods and support.

A similar opinion was expressed by Wasliman (2007: 158), the learning outcomes achieved by students are the result of interactions between various influencing factors, both

internal and external factors. Furthermore, Wasliman (2007:159) stated that school is one of the factors that determines student learning outcomes and the quality of teaching at school, the higher the student learning outcomes.

The quality of teaching in schools is determined by teachers, as stated by Wina Sanjaya (2006:50), that teachers are a very determining component in the implementation of a learning strategy. Based on this opinion, it is emphasized that one of the external factors that plays a major role in influencing student learning outcomes is the teacher. Teachers in the learning process play a very important role. The role of the teacher, especially for students at elementary school age, cannot possibly be replaced by other devices, such as television, radio and computers. Because students are developing organisms that need adult guidance and assistance.

B. Natural Sciences (IPA)

Science is a science that was initially obtained and developed based on experiments (inductive) but was developed based on theory (deductive). There are two related things that are inseparable from science, namely science as a product, science knowledge in the form of factual, conceptual, procedural and metacognitive knowledge, and science as a process, namely scientific work.

Currently, the objects of science study are becoming increasingly broader, including science concepts, scientific processes, values and attitudes, science applications in everyday life, and creativity (Ministry of National Education, 2011). Learning science means learning these five objects or fields of study. What is meant by Natural Science or Natural Science? There are three terms involved in this, namely "science", "knowledge", "nature". Knowledge is everything that humans know. In life, humans have a lot of knowledge. Knowledge about religion, education, health, economics, politics, social affairs and the natural environment are examples of knowledge possessed by humans. Natural knowledge means knowledge about the universe and its contents.

Science is scientific knowledge, knowledge obtained scientifically, meaning obtained by scientific methods. The two main characteristics of science are rational, meaning reasonable, logical, or acceptable to common sense, and objective. That is, in accordance with the object, in accordance with reality, or in accordance with observations. With this understanding, science can be interpreted as a science that studies the causes and effects of events in nature (Sukarno, 1973).

C. Jigsaw Type Cooperative Learning Model

This learning model is a cooperative learning technique where students, not teachers, have greater responsibility in carrying out learning. The jigsaw type cooperative learning model is a cooperative learning model, with students learning in small groups consisting of 4-6 people in a heterogeneous manner and working together in positive interdependence and taking responsibility for the completion of the material to other group members. The goal of this jigsaw is to develop teamwork, cooperative learning skills and master knowledge in depth that is impossible to obtain if they try to study all the material alone.

Jigsaw was first developed and tested by Elliot Aronson and friends at the University of Texas, and then adapted by Slavin and friends at John Hopkins University (Arends, 2001: 78). The Jigsaw teaching technique was developed by Aronson as a cooperative learning method. This can be used in teaching reading, writing, listening or speaking. In this technique, the teacher pays attention to schemata or background experiences of students and helps students activate these schemata so that the learning material becomes more meaningful. In addition, students work together with fellow students in an atmosphere of mutual cooperation and have many opportunities to process information and improve communication skills.

Jhonson (in Isjoni, 2007: 17) said that cooperative learning is an effort to group students in the class into small groups so that students can work together to the maximum ability they have and learn from each other in the group.

The Jigswa procedure is: (a) Select learning material that can be divided into several segments (parts), (b) Divide participants into several groups according to the number of segments available. If the number of participants is 25 and the number of segments is 5 then each group consists of 5 people. (c) Each group gets the task of reading, understanding and discussing and making a summary of different learning materials. (d) Each group sends its members to another group to convey what they have learned in their group. (e) Return the class atmosphere to normal and then ask if there are unresolved problems in the group. (f) Give students questions to check their understanding of the material studied. (g) The teacher carries out conclusions, classification and follow-up (PLPG PSG, 2009).

2. RESEARCH METHODS

IThe term proposal or research design that is more popularly used by writers is research design. As found in research books, research design is defined as a stage in carrying out before and after experiments by Campbell and Stanley (1966).

This research was conducted on all class VI students at SDN 019 Tanjung Sawit District. Tapung. The basis for choosing this subject is that in class VI science subjects there is material about the Special Characteristics of Living Animal Creatures. The place where the research was conducted was SDN 019 Tanjung Sawit Kec. Tapung for the 2022/2023 academic year.

This Class Action (PTK) is planned for only 2 cycles. Each cycle is 2 hours of lessons (1 hour 35 minutes). Each cycle consists of 4 stages, namely planning, acting, observing, reflecting. The data collection instruments used were the researchers themselves, tests, evaluation sheets and observation sheets. The analysis in this research uses analysis and reflection in each cycle based on the results of observations and student learning achievement results. Reflective analysis is carried out by researchers together with collaborators as a basis for determining the action program in the next cycle or to detect that this class action study has achieved its objectives.

3. RESEARCH RESULTS AND DISCUSSION

3.1 Research Results

Based on research on the implementation of learning that was carried out in the pre-cycle and cycle I, the author carried out data analysis and self-reflection. The results obtained are as follows:

1. Pre-Cycle Research Results

a. Test Results

Before the author carried out pre-cycle learning improvements, the author carried out a pre-test to determine students' abilities regarding the material on the special characteristics of living animals taught in class. Based on the results of the scores obtained from the pre-test, the author tries to implement learning improvements in the pre-cycle. Learning improvement activities are carried out using contextual learning. The method used is a jigsaw. Students group according to the material then provide information to other groups.

Table 1. Pre-Test and Pre-Cycle Post-Test Evaluation Results

Value Interval	Pre Test Score		Post Test Score	
	Frequency	Percentage	Frequency	Percentage
Score ≤ 50	8	50%	3	15%
Score 55 to 70	8	50%	6	40%
Score 75 to 100	-		7	45%
Amount	16		16	
Average	45		65	

Completeness	30%	55%

From the results of the pre-test evaluation of students, many of the 16 students experienced completeness, only 8 students with an average of 45. The results of the post-test evaluation of all students experienced complete learning, 14 students (55%) with an average of 65. This shows that in pre-test This cycle has not been successful because students' grades have increased.

b. Student Observation Results

After the author observed and recorded all student activities in improving learning cycle I.

c. Teacher Observation Results

Observations made by collaborators on teacher activities in this pre-cycle revealed that there were still many weaknesses and deficiencies in teachers' abilities and performance in implementing learning. As for the attached teacher observation sheet, it turns out that based on the observations the results were obtained in the sufficient category.

d. Reflection

After observing the learning activities in cycle I, the author then reflects on all the actions that have been carried out in cycle I. The results obtained from all learning activities in cycle I are as follows:

1) When implementing the jigsaw method in class, students discuss with their groups and inform other friends from different groups.
2) When the teacher asked questions about what they had learned, many students responded to the teacher's questions.
3) Students' understanding in this cycle is obtained from the results of the post test carried out at the end of the lesson. The results are quite good with an average of 45 with a completion rate of 65%.

2. Cycle I Research Results

Because the author felt dissatisfied with the results obtained in the pre-cycle learning activities, the author re-planned learning improvements for cycle I that adjusted to the weaknesses and deficiencies in the pre-cycle. In cycle I, the following results were obtained:

a. Test Results

In cycle I, the author again conducted a pre-test to determine students' abilities before learning was carried out. The subject of discussion in cycle I is the special characteristics of animal living things. In cycle I, the same method was used, namely the jigsaw method. At the end of learning in cycle I, the author conducted a post test. The results obtained in the pre-test and post-test are as follows:

Table 2 Pre-Test and Post-Test Evaluation Results for Cycle I

Value Interval	Pre Test Score		Post Test Score	
	Frequency	Percentage	Frequency	Percentage
Score ≤ 50	5	15%	3	5%
Score 55 to 70	11	85%	-	-
Score 75 to 100	-	-	13	95%
Amount	16		16	
Average	75		90	

Completeness	85%	95%

From the results of the pre-test evaluation, only 9 students (85%) experienced completion out of 16 students with an average of 75. Meanwhile, from the results of the post-test evaluation, 13 students (95%) experienced completion with an average of 90. This shows that in cycle II there was success because students' grades increased.

b. Student Observation Results

Student activity starts from student activities conducting group discussions in class. When another group read the results of their discussion between groups, many students actively responded, although it was still in a relaxed atmosphere, the students were quite interested. It's just sometimes difficult to control because students don't want to lose to other students.

Students are active in answering the teacher's questions. This is because the teacher gives clear questions and does not focus on just one student, but comprehensively on other students. So, students feel more appreciated.

Student understanding is measured by students' learning completeness in cycle I learning improvement activities. Students' understanding in cycle I is classified as good and has achieved the learning completeness determined previously.

c. Teacher Observation Results

The observations made by the author on teacher activities in cycle I were very good. The teacher observation sheet is attached. However, improvements still need to be made in certain areas. Therefore, the author will try to maximize it to improve it in cycle I.

d. Reflection

Based on observations of learning activities in cycle I, the author then reflects on all the actions that have been carried out in cycle I. The results obtained from all learning activities in cycle I are as follows:

1) When implementing the jigsaw method in class, students are actively involved. Students are interested in expressing their opinions. Finally, students do not want to lose to other students, because of this, sometimes students become difficult to control.
2) When the teacher asks questions about what they have learned, many students respond to the teacher's questions.
3) Students' understanding in this cycle is obtained from the results of the post test carried out at the end of the lesson. The results are quite good with an average of 90 with a completion rate of 95%.

3.2 Discussion

The focus of improving learning in cycle I is to explain the material on the special characteristics of living things in the first part. Students are divided into groups according to the name of each animal group. Many students are not yet active in this activity. Some students only rely on their group leader. The results of observations of student activity in cycle I reached 80%.

In cycle I, students were asked to discuss the special characteristics of living animals, part two. Students are divided into groups whose number of members tends to be smaller than the group divisions in cycle I. Some students are classified as active. It's just that there are still those who are silent when the group discussion is taking place. The results obtained in observing student activity in cycle II increased to 90%.

The second main problem in this research is increasing student understanding. The observations made were by assessing the results of student discussions. This is in the form of a written report or when students present the results of their group work. The results of observation of understanding in cycle I were 65%. In cycle II this rose to 90%. The third main

problem is student learning achievement. This is assessed from the test carried out by the teacher in the post test.

The results of the data above show that the average class score obtained in the pre-cycle was 55 with a completion level of 65%. In cycle I the average class score was 90 with a completion rate of 91%. This means that it shows that the results per cycle have experienced a relatively good increase and this research has met the indicators of success, namely student learning completeness which has been determined to be ≥85%.

Based on the results obtained in the pre-cycle and cycle I, it can be concluded that the jigsaw method can increase student activity, understanding and learning achievement in Natural Sciences (Science) subjects.

Based on the results of the researchers, SDN 019 Tanjung Sawit experienced an increase in student learning outcomes which were classified as good, especially class VI through the jigsaw method with material on the special characteristics of living animals. From cycle I and cycle II the average class value increased. The allocation of learning improvement time is:

Table 3. Time allocation for learning improvement

No	Activity	Time							
		June		July				August	
		3	4	1	2	3	4	1	2
1.	Planning								
2.	Pre Cycle								
	Implementation								
	Reflection								
3.	Cycle I								
	Planning								
	Action								
	Observation								
	Reflection								

4. CONCLUSION

Based on the results of the research, the researchers concluded that the jigsaw method could improve learning achievement in class VI students regarding the special characteristics of living animals at SDN 019 Tanjung Sawit for the 2022/2023 academic year. The increase in the average class score rose from 65 (pre cycle) to 85 and this PTK was considered successful.

5. THANK-YOU NOTE

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