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Application of Cycle Learning Learning Strategies with Metamorphosis Material to Improve Learning Ability of Elementary Students

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ABSTRACT

This study aims to describe the results of applying Cycle Learning learning strategies to elementary age children in improving students' learning abilities. In this study the learning model used is one that can stimulate student participation and the teacher acts as a facilitator. The Cycle Learning learning model is a constructivist learning model, in which learning activities are directed at student activities. This research uses a type of qualitative research with descriptive methods. The supporting factors for implementing the Cycle Learning learning strategy are: (1) Stimulating students to remember what has been taught before, (2) Motivating students to learn more and be more curious, (3) Train students to learn to find concepts through experimental activities and communicate verbally the concepts they learn and students are able to convey these concepts orally. In addition to the supporting factors, there are also inhibiting factors from the application of Cycle Learning, namely: (1) The effectiveness of learning is low if the teacher does not master the material and learning steps, (2) Demands the seriousness and creativity of teachers in designing and implementing the learning process, (3) Requires more time and energy as well as more planned and organized class management. The results of this study regarding the application of the learning cycle model in elementary schools can improve student learning outcomes with the aim of giving students time to think, search, find and explain examples of the application they are learning.

ABSTRAK

Penelitian ini bertujuan untuk mendeskripsikan hasil penerapan strategi pembelajaran Cycle Learning kepada anak usia dasar dalam meningkatkan kemampuan belajar siswa. Dalam penelitian ini model pembelajaran yang digunakan adalah yang dapat merangsang partisipasi siswa dan guru berperan sebagai fasilitator. Model pembelajaran Cycle Learning merupakan model pembelajaran konstruktivis, di mana kegiatan pembelajaran diarahkan pada kegiatan siswa. Penelitian ini menggunakan jenis penelitian kualitatif dengan metode deskriptif. Adapun faktor pendukung dari penerapan strategi pembelajaran Cycle Learning yaitu: (1) Merangsang siswa untuk mengingat apa yang telah diajarkan sebelumnya, (2) Memotivasi siswa untuk belajar lebih banyak dan lebih ingin tahu, (3) Melatih siswa belajar menemukan konsep melalui kegiatan percobaan serta mengkomunikasikan secara verbal konsep yang dipelajarinya dan siswa mampu menyampaikan konsep tersebut secara lisan. Selain adanya faktor pendukung, juga ada faktor penghambat dari penerapan Cycle Learning, yaitu: (1) Efektifitas pembelajaran rendah jika guru kurang menguasai materi dan langkah-langkah pembelajaran, (2) Menuntut kesungguhan dan kreativitas guru dalam merancang dan melaksanakan proses pembelajaran, (3) Memerlukan waktu dan tenaga yang lebih banyak serta pengelolaan kelas yang lebih terencana dan terorganisir. Adapun hasil penelitian ini tentang penerapan penggunaan model learning cycle di sekolah dasar dapat meningkatkan hasil belajar siswa dengan tujuan memberikan waktu untuk peserta didik berpikir, mencari, menemukan dan menjelaskan contoh penerapan yang mereka pelajari.

PRELIMINARY

Each child has their own level of intelligence and skills, so we as teachers or educators must be able to know and learn about the capabilities of each student so that they can discover and develop their respective potentials. Ideally, elementary school children love to play while learning. The world of children at the elementary school level is playing and actively moving according to their own imagination. Thus, the teacher must provide learning facilities that allow students to move freely in each of their learning activities.

In reality, children of primary school age prefer to play without prioritizing their interest in learning, because the world of elementary school children is a world of playing with full activity. Children will prefer to move, enjoy working in groups actively, and enjoy doing or practicing something directly. Therefore, the teacher's role will be very important in children's learning, especially at the elementary school level. In addition to the teacher's role in educating, teaching, or guiding students in learning, the teacher must also be able to create an effective and appropriate learning atmosphere, and not be boring for children to attract children's interest in learning again (Yestiani & Zahwa, 2020).

Education is a planned effort to create a learning atmosphere and learning process so that students can actively develop their potential (Nurkholis, 2013). The success of the teaching and learning process in school education is very important. For example, in the study of science subjects, within the educational framework it has an important role in improving the quality of education, especially in training students with the ability to act, think critically, creatively, logically and actively solve social problems caused by the development of science. This is in accordance with research by Yulaikah & Dessy (2015) that science learning for students is learning that encourages students to actively understand material with the ability to reason and think critically, involving scientific processes and their application in real life. The rapid development of science and technology, including science biology, has influenced the selection of appropriate materials, methods, learning tools and learning models to improve students' learning abilities. knowledge and can compete to respond to these scientific developments (Rachmantika & Wardono, 2019).

In the learning process with natural science material, more emphasis is placed on processing skills to find theories and concepts, which affect the quality of learning. Learning is not only the accumulation of knowledge. However, learning is a mental process that occurs in a person, so it brings changes in learning. This mental activity occurs due to interaction with the environment. related to these things, states that "actual learning" is a process of interacting with every situation around the individual". Education will be carried out well if there are guidelines in its implementation. The guidelines for implementing education that are needed are educational programs, because educational programs contain references -reference needed in the implementation of education.

Learning can be said to be effective and optimal if the learning objectives can be achieved. In order to achieve learning objectives, an educator can create good learning situations and conditions in an effective way. Educators are required to be able to master and apply effective and innovative teaching methods or models that can improve student learning outcomes in the learning process. As Trianto (2014) said, the science teaching and learning process (metamorphosis) places more emphasis on the process skills approach, so that students can find facts, build their own scientific concepts, theories and student attitudes, which in turn can have a positive impact on the quality of education and educational products.

Teachers need to improve the quality of learning starting with a good learning design that takes into account the objectives, the characteristics of the subjects taught, and the available learning resources. Actually, there are still many learning processes that are less interesting, so that learning outcomes are not optimal. Field observations and interviews conducted indicate that efforts should be made to enhance learning. Learning must be designed taking into account the objectives, the characteristics of the subjects to be taught, students' abilities and available learning resources. Students must be given the opportunity to explore understanding, develop thinking skills and scientific process skills, one of which is the learning cycle model.

The learning cycle learning model (Learning Cycle) used is a model that can stimulate student participation and the teacher acts as a facilitator. The learning cycle model is a constructivist learning model, in which learning activities are directed at student activities. The constructivist approach is a learning perspective that teaches students to construct their own knowledge through patterns that students already have. This model also provides time for students to think, search, find and explain the

application examples they learn.

Based on the literature review above, it is known that there are several analyzes regarding the application of the Cycle Learning learning model to MI/SD students. Thus, further and in-depth studies are needed on this matter which are summarized in the research title "Application of the Cycle Learning Learning Model to Improve Students' Learning Ability in MI/SD.

METHOD

This type of research uses qualitative research with descriptive methods. Descriptive is research with a method to describe a research result with the aim of providing a description, explanation, as well as validation regarding the phenomenon being studied (Ramadhan, 2021; Assingkily, 2021). Data collection techniques used in this study, namely interviews, documentation, and observation. Interviews are used as a data collection technique if the researcher wants to conduct a preliminary study to determine the problems that must be studied, and if the researcher wants to know things from respondents that are more in-depth and the number of respondents is small/small. Documentation is a record of past events, and documentation can also take the form of writing, drawings, or someone's monumental works. The type of observation used is participant observation, in which researchers are directly involved in teaching activities carried out in the field (Salamah, 2020).

FINDINGS AND DISCUSSION

The Nature of the Cycle Learning Learning Model

Cycle Learning or commonly called the learning cycle is a student-centered learning model, namely a series of stages of activities arranged in such a way that students can master the skills that will be acquired academically by playing an active role (Rejeki, *et.al.*, 2015). LC (Learning Cycle) is preferred because it is in accordance with Piaget's learning theory, constructivist-based learning theory. Piaget stated that "learning is the development of cognitive aspects which include: structure, content and function". "Intellectual structure is the mental organization at the level of individual problem-solving abilities. Content is the typical behavior of individuals in response to the problem at hand. While the function is a process of intellectual development which includes adaptation and organization (Ngalimun, 2012).

The learning cycle is a learning cycle that consists of a series of stages of activities arranged systematically through the active role of students so that learning objectives can be achieved efficiently and effectively because the learning cycle is a model of the learning process that relies on students to find their own knowledge. The learning cycle learning model is easy to learn and very useful for creating scientific research opportunities and query-based learning models (Sapriati, 2011).

The new concept must be arranged with other concepts that are already owned. Good intellectual organization will be reflected in the response given to problems. The specialty of the LC (learning cycle) learning model is that each student studies the learning material prepared by the teacher on their own, then individual learning outcomes are presented in front of the group so that members can learn from each other. Group members and all group members are responsible for the overall response as a shared responsibility. The benefits of the LC (learning cycle) learning model increase learning motivation when students are actively involved in the learning process. Can provide interesting learning conditions, improve students' social skills and activities, help students understand and master metamorphic concepts that have been learned through activities or group study, in order to improve student learning outcomes. Therefore, the LC (learning cycle) learning model is suitable to be applied in physics learning because it can overcome individual student learning difficulties to understand concepts as they are used more broadly to solve problems.

Karplus & Thier defines the learning cycle as a learner-centered learning model. The learning cycle is a series of active steps held so that participants in learning can master a number of skills that must be achieved in learning through the active role of students. Turn on the learning cycle The initial stage includes the stages of concept discovery, introduction, and application. From the opinion given by Karplus, it can be concluded that the student-centered learning cycle learning model allows students to actively explore their own concepts. To achieve this, the learning cycle consists of organized stages so that students' understanding can be well developed (Ngalimun, 2012).

Cycle Learning Learning Model Steps

The learning cycle model has many stages. Initially, this model had three phases, namely: explore, interpret, and build/extend, known as the 3E learning cycle. In the next process, the three stages of the cycle develop into five stages, namely: participating, investigating, explaining, developing (elaborating/extension) and evaluating should be called the 5E learning cycle (Imaniyah, *et.al.*, 2015).

Bybee in Warsono and Hariyanto suggests that the stages of the 5E learning cycle (LC) model are explained as follows:

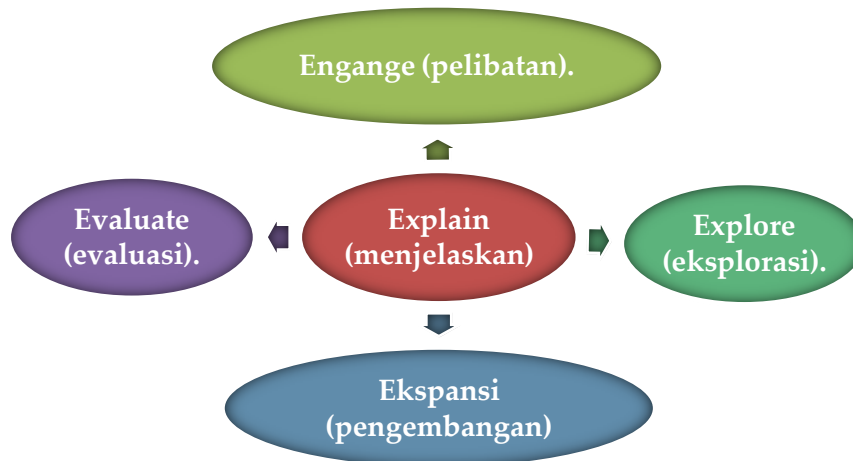


Figure 1. Learning Cycle Model

According to Fajaroh (2008), the learning stages of the 5E learning cycle (LC) model, namely: First, engagement: the teacher invites students to process initial knowledge and ideas and identify possible misunderstandings in previous learning. This engagement stage arouses students' interest and curiosity about the subjects being studied. Students are also asked to make predictions about the phenomena to be studied and proven during the exploration phase. Second, exploration: At this stage, students work together in small groups to test predictions, make and record observations and ideas through ongoing discussions, according to direct instructions from the teacher, and are given the opportunity to do so.

Third, description: In this phase, the teacher encourages students to explain concepts in their own sentences, look for evidence to clarify explanations, and guide discussion activities. At this stage, students find terms from the concepts they learn. Fourth, elaboration/extension, students apply concepts and skills in new situations through activities such as advanced practice and problem solving. Fifth, evaluation, evaluating the effectiveness of the previous stages, and assessing students' knowledge, understanding of concepts, or ability to solve problems in new contexts.

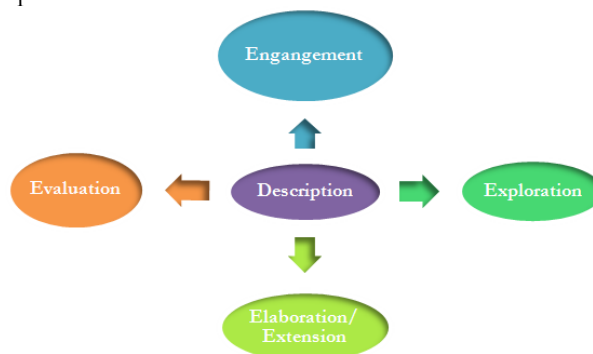


Figure 2. The 5E Learning Cycle Concept.

From the description of the level of learning above, it can be assumed that at the assessment stage students and teachers jointly assess how well students understand the learning that has been done. The following is a schematic of the learning model steps from Cycle Learning.

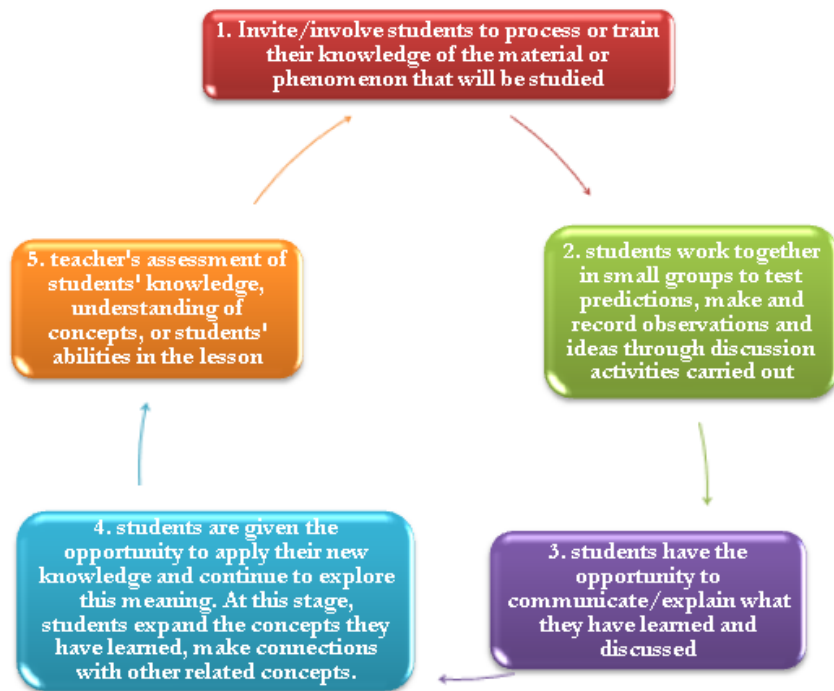


Figure 3. Cycle Learning Strategy.



Figure 4. students work on the LKS given by the teacher.



Figure 5. Students explain the stages of metamorphosis.

The supporting factors for the application of the Cycle Learning learning model are: (1) Stimulating students to remember what has been taught before; (2) Motivate students to learn more and be more curious; (3) Train students to learn to find concepts through experimental activities; (4) Train students to

verbally communicate the concepts they learn; (5) So that students are able to think, search, find and explain the application of the concepts learned and are able to convey these concepts orally (Nur & Noviardila, 2021).

In addition to the supporting factors, there must also be inhibiting factors from implementing Cycle Learning, namely: (1) The effectiveness of learning is low if the teacher does not master the material and learning steps; (2) Demanding the seriousness and creativity of teachers in designing and implementing the learning process; (3) Requires more planned and organized classroom management; (4) Requires more time and energy in planning and implementing learning (Islamiyah, 2018).

Teacher's Observation of Students in the Application of the Cycle Learning Model

Based on the observations that have been made by researchers, information is obtained that the application of the Cycle Learning learning model is quite good. This is evident from the results of observations made by the Cycle Learning learning model that can make SD/MI children learn more actively because learning with this strategy forms groups that work together with their own groups to solve problems that have been given by the teacher.

As has been done by compiling a series of metamorphosis processes of butterflies and cockroaches. each group can complete the stages of compiling the metamorphosis picture correctly, then present and explain it according to their own understanding in front of the other groups. In addition, students are also asked to work on evaluation questions that have been given by the teacher so that with this evaluation the teacher can see/know to what extent the student has mastered the subject matter given by the teacher in depth.

Besides that, based on interviews conducted by researchers, students were quite interested in learning using the Cycle Learning model in the matter of metamorphosis numbers. According to them, by discussing and grouping it will be more fun and feel more challenged to carry out various practices in learning, so that they will be much more active and process their knowledge and understanding to solve an existing material or problem.

Reflection on Metamorphosis Material on Learning Models

Animal metamorphosis is a process of biological development in animals that involves changes in appearance and/or structure after birth or hatching. These physical changes occur as a result of cell growth and differentiation, or the processes observed in very different multicellular organisms. In order to explain this transformation, we need to show students a real picture. These metamorphosis pictures will help you differentiate between perfect and imperfect metamorphosis.

The steps taken in the process of learning animal metamorphosis using printed media are: (1) Communication of learning objectives by the teacher (2) Presentation of teaching materials (3) Group discussions with 2-4 students (4) presentation of media images by each group (5) Evaluation of the results of the discussion and presentation of the student's work. In addition to these steps, the displayed image must retain attractive colors like its original form. For example, the perfect metamorphosis of butterfly eggs, larvae (caterpillars), cocoons, butterflies, and imperfect metamorphosis of grasshoppers, such as pictures of grasshopper eggs and grasshoppers hatching. There are many different examples depending on the needs and number of students.

CONCLUSION

Based on the results of the study, it can be concluded that the Learning Cycle 5E learning model greatly influences student learning outcomes in metamorphosis material. The Cycle Learning learning strategy applied to elementary school age children is quite good because it fulfills several indicators, including: (1) students become more active and can develop their own knowledge and understanding, (2) can work together with group members very well, (3) students are able to solve/solve existing problems, and (4) train students to remember what has been taught before.

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