Journal of Biological Science and Education
~JBSE~
Website: http://usnsj.com/index.php/biology
Email: biologi_jbse@usn.ac.id

Outdoor Learning Methods to Improve Students' Biological Concepts

AUTHORS INFO

Akmalsyah
SMP Negeri 15 Kabaena Utara
akmalsyah.nawawi@gmail.com
+6282299204809

ARTICLE INFO

E-ISSN: 2721-0804
P-ISSN: 2723-6838
Vol. 2, No. 2, December 2020
URL: http://usnsj.com/index.php/biology

Received : 13 November 2020
Reviewed : 08 December 2020
Accepted : 19 December 2020

Suggestion for the Citation and Bibliography
Citation in Text:
Akmalsyah (2020)
Bibliography:
Akmalsyah. (2020). Outdoor learning methods to improve students biological concepts. *Journal of Biological Science and Education, 2*(2), 64-68

Abstract

Outdoor learning is a method in learning and teaching. With outdoor learning, students can get to know the environment and biological concepts. The purpose of this study was to determine the increase in students' understanding of the concept of the interaction between living things and the environment in the outdoor learning method. This type of research is a classroom action research (CAR) with two learning cycles. The subjects of this study were students of class X SMPN 15 Kabaena Utara with 20 students. The data obtained were analyzed using descriptive analysis. The results showed that the students' understanding of the concept of cycle 1 was 40.95 and cycle 2 was 70.5. Based on the results of the study, it can be concluded that the outdoor learning method can improve the understanding of biological concepts in class X SMPN 15 Kabaena Utara.

Keywords: Outdoor Learning Method, Biological Concept Students

A. Introduction

In the effort to improve student learning outcomes it cannot be separated from the role of a teacher. Each approach, method and learning model used by the teacher in teaching greatly affect student learning outcomes, including cognitive, affective and psychomotor. Even though technological advances today are very fast, the role of teachers is still very much needed.

According to Slameto (2010: 97), teachers have a duty to encourage, guide and provide learning facilities for students. Thus, the role of teachers is very important to increase the students' interest in learning. This interest can be realized through student learning activities during learning activities.

The learning process carried out at SMP Negeri 15 Kabaena Utara, especially the material on the interaction of living things and the environment was still monotonous in the classroom. In connection with these problems, an appropriate learning approach is needed to improve students' understanding of mathematical concepts and strategic competences.

Overcoming the problems faced above can be done through the application of outdoor learning based learning (learning outside the classroom) with a scientific approach. In this case, students can observe, ask questions, process information, try and communicate what they have learned. In this method, students more easily understand the material provided by the teacher,

because they carry out identification of problems and find solutions to solve these problems in learning. (Wahyuni et al, 2017). Based on these facts, researchers are interested in conducting research with the title "Increasing Understanding of Biological Concepts through Outdoor Learning Method in Students of SMP Negeri 15 Kabaena Utara.

B. Literature Review

1. Concept Understanding

Comprehension is a process consisting of the ability to explain and interpret something, while a concept is something that is reflected in the mind, an idea, or an understanding (Susanto, 2015). Students' conceptual understanding is defined as the student's ability to grasp the meaning or concept (material) being learned. Understanding the concept is one indicator of learning outcomes achieved by students in learning. Learning outcomes are related to students' ability to accept and understand the material being taught (Hanif, et al, 2016).

Understanding the concept is one of the processes of a person's thinking that can be expressed by cognitive learning outcomes. Concept understanding is a set of mental processes that cannot be separated from students' thinking skills (Winarni, 2006). Understanding concepts is the basis of understanding principles and theories, so that in order to understand the principles and theories, students have to understand the concepts (Diana et al. al, 2020).

2. Outdoor Learning Method

Outdoor learning can be increased students' creativity in solving various problems, foster students independence, mutual cooperation, cooperation among students, develop students' scientific attitudes, because in the teaching and learning process, the teacher invites students to practice the material given directly (Widiasworo, 2017). Lim (2013) also stated that outdoor learning is able to provide positive perceptions of various things by exploring in a wider environment, and can improve students' scientific abilities which in the future have an impact on student creativity.

Outdoor learning is a fun learning setting where students can interact with the environment. With this activity, it is expected that students can see, hear, touch and smell something real so that it provides direct and concrete experiences (Bilton, 2005). Isbayani, Sulastri & Tirtayani (2015) suggested that the outdoor method can be improved the students' social skills because it is given by using games and cooperation among students.

C. Methodology

1. Research Design

This type of research is a classroom action research (CAR) Kemmis and Taggart with two learning cycles. The characteristic of CAR is that there is a cycle of action to improve the learning process in the classroom. Each cycle consists of two meetings. This research was conducted in the even semester of the 2019/2020 academic year on the material of interaction between living things and the environment. The subjects of this study were class VII SMPN 17 Kabaena Utara with 20 students.

2. Instruments

This research using cognitive indicators according to Anderson & Krathwohl (2001) at the cognitive level C1-C6. The instrument used in this study was a test of concept understanding, consisted 10 multiple choice questions.

3. Technique of Data Analysis

The data in this study were analyzed using descriptive statistical analysis to provide an overview of the improvement students' understanding of biological concepts.

The average understanding of students' concepts is measured by the following formula:

$$\bar{x} = \frac{\sum x}{n}$$

Information:

$(X)^{-}$ = The average value obtained by students

n = Total number of students

x = The value obtained by each student (Sudjana, 2004).

D. Findings and Discussion

1. *Findings*

The results of the students' answers to the 10 questions are presented in figure 1

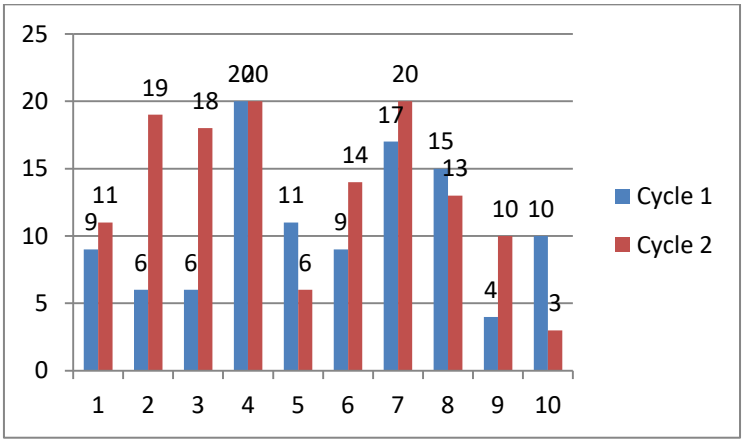

Figure 1. Concept mastery in 10 Items on the Interaction of living things with the Environment

Based on figure 1, there is an improvement in students' conceptual understanding from cycle 1 to cycle 2. In cycle 1, the most correctly answered questions are questions number 4 and number 8. However, questions number 5 and number 10, the number of students who answered correctly from the cycle 1 to 2 cycle has decreased. In cycle 1 question number 5, 11 students answered correctly, but in cycle 2, only 6 students answered correctly. Likewise in question number 10, 10 students answered correctly in cycle 2, but only 3 students answered correctly in cycle 2.

Increased understanding of concepts in 20 students of the interaction material of living things with the environment through outdoor learning in cycles 1 and 2 can be seen in figure 2.

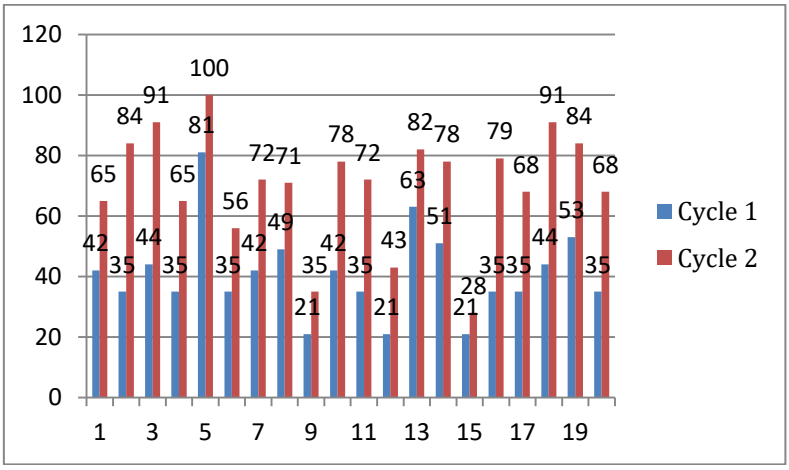

Figure 2. The results of the answers to cycle 1 and cycle 2 of understanding the concept of 20 students

In figure 2. It can be seen that the increase in students' conceptual understanding from cycle 1 and cycle 2 increased significantly for each individual. However, some of them have experienced very significant improvements. It can be seen that students with maximum scores are students with serial numbers 5 and 18 with a score of 100 and 91. Moreover, if it is seen from the increase in the pretest to posttest scores of students' serial numbers 2, 3 and 18, it has increased with a difference of 49, 47 and 47 values. In contrast, student number 15 experienced the lowest increase with a difference in value of 5 from cycle 1 to cycle 2.

The average understanding of the concept for 20 students from cycle 1 to cycle 2 can be seen in Figure 3.

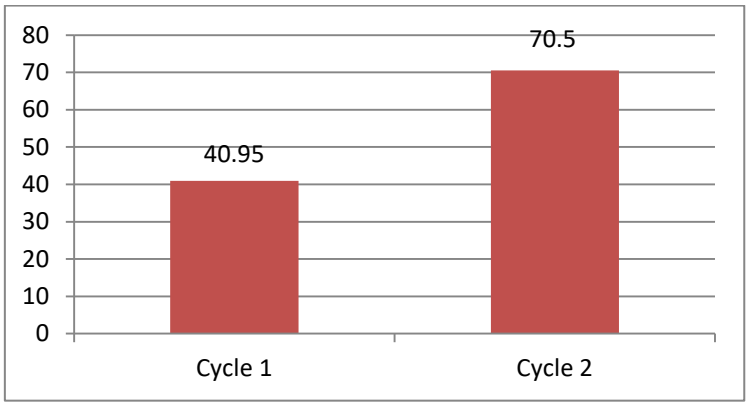

Figure 3.The average understanding of the concepts of students in cycle 1 and cycle 2

2. Discussion

Students 'understanding of concepts on the material of the interaction of living things and the environment shows that there is an improvement in students' mastery of concepts from cycle 1 to cycle 2. This is indicated by the results of data analysis obtained where the average in cycle 1 is 40.95 and the average in cycle 2 is 70.5. Outdoor learning has a tendency to hone students' collaboration skills because it contains cooperative learning through various things that can be explored outside the classroom (Martin & Fleming, 2010). Danarti (2014) states that through outdoor learning students will acquire knowledge that is extracted by themselves through the formation of ideas, concepts and knowledge through direct experience by seeing learning objects. Through this activity, besides having creative abilities, students will also have scientific literacy skills.

In cycle 1, some of students have scores were 20. This is because the time allocation used is not based on the indicators and learning objectives, so that it has an impact on students learning activities in outdoor learning. In addition, students did not really understand the outdoor learning process. The role of outdoor learning-based is to meet the students' needs and provide what they need in real life. According to Husamah (2013), outdoor learning is an out-of-school activity consists of outdoor and indoor activities, such as: playing in a school environment, parks, agricultural/fishing villages, camping, and adventure activities.

In cycle 2, all students scored above 60. This is because students have been able to provide ideas or ideas during learning. In addition, students are also actively involved in exchanging information about knowledge and experiences while participating in outdoor learning. Setiyorini's (2018) research showed that in the outdoor learning, five-points contextual learning system, namely making meaningful connections, doing significant work, collaborating (collaborating), critical thinking and creative (critical and creative thinking), and using authentic assessment (using authentic) are implemented. All of the potential students have the same opportunity to develop better capability in their learning outcomes because there is real interaction between student and the real world. Ramadhani's research (2016) states that outdoor learning improves student learning outcomes in the medium and high categories because this method focuses on students' experiences of finding and building their own information about the material being studied.

E. Conclusion

Based on the results of the study, it was concluded that students' conceptual understanding could be improved through outdoor learning-based learning with the average understanding of the concept of students in cycle 1, namely 40.95 and cycle 2 of 70.5. This means that outdoor learning-based learning activities can help students understand the concept of material interaction between living things and the environment.

F. References

Bilton, H. (2005). Learning outdoor "Improving the quality of young children play outdoor". London: David Fulton Publisher.

Danarti, R. (2014). Perbedaan hasil belajar IPS model project based learning berbasis outdoor study dengan konvensional siswa SMP. *Jurnal Pendidikan Humaniora, 2*(2), 102-111.

Diana, P., Marethi, I., & Pamungkas, A. S. (2020). Kemampuan pemahaman konsep matematis siswa: ditinjau dari kategori kecemasan matematik. *SJME (Supremum Journal of Mathematics Education)*, *4*(1), 24-32.

Hanif, H., Ibrohim, I., & Rohman, F. (2016). Pengembangan perangkat pembelajaran biologi materi plantae berbasis inkuiri terbimbing terintegrasi nilai islam untuk meningkatkan pemahaman konsep siswa sma. *Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan*, *1*(11), 2163-2171.

Isbayani, N. S., Sulastri, N. M., & Ayu , L. (2015). Penerapan metode outbound untuk meningkatkan keterampilan sosial emosional anak, 3(1). Diperoleh darihttps://ejournal.undiksha.ac.id/index.php/JJPAUD/article/view/6148/4331

Ramadhani, W. S., & Indah, E. N. K. (2016). Penerapan pembelajaran outdoor learning process (OLP) melalui pemanfaatan taman sekolah sebagai sumber belajar materi klasifikasi tumbuhan untuk meningkatkan hasil belajar siswa SMP. *Jurnal Pendidikan Sains*, *4*(3), 1-7.

Setiyorini, N. D. (2018). Pembelajaran Kontekstual IPA Melalui Outdoor Learning di SD Alam Ar-Ridho Semarang. *Al-Mudarris: Journal Of Education*, *1*(1), 30-38.

Sudjana, N. (2004). *Penilaian hasil proses belajar mengajar.* Bandung: PT Remaja Rosdakarya.

Susanto, A. (2015). *Teori Belajar dan Pembel-ajaran di Sekolah Dasar*. Jakarta: Prenada-media Group.

Wahyuni, S., Indrawati, I., Sudarti, S., & Suana, W. (2017). Developing science process skills and problem solving abilities based on outdoor learning in junior high school. *Jurnal Pendidikan IPA Indonesia*, *6*(1).

Widiasworo, E. (2017). *Strategi dan metode mengajar siswa di luar kelas (Outdoor Learning).* Yogyakarta: Ar-Ruzz Media.

Winarni, E. W. (2006). *Pengaruh Strategi Pembelajaran terhadap Pemahaman Konsep IPA-Biologi, Kemampuan Berpikir Kritis, dan Sikap ilmiahSiswa Kelas V SD dengan Tingkat Kemampuan Akademik Berbeda di Kota Bengkulu*. Disertasi tidak diterbitkan. Malang: Pascasarjana Universitas Negeri Malang.