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Student field trip to mangrove forests: The effect on learning outcomes

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Abstract: The low student learning outcomes are also because many students are less active in asking questions, student activities are still passive and only centered on the teacher. Mangrove forest is a place that can be used as a source of student learning. Field trips to mangrove forests are a form of learning that can help strengthen students' knowledge. The research aims to test field trips to mangrove forests on student learning outcomes. Experimental study without a control class on 20 students of SMA Mangipanda in Ende. Learning achievement tests are used to collect data. Data analysis using the Wilcoxon test. The findings show that the sig. < 0.05. This finding indicates that the field trip method to the mangrove forest has an effect on the learning outcomes of class X students of SMA Negeri Magepanda.

Keywords: Biology learning, field trip, knowledge

Abstrak: Rendahnya hasil belajar siswa juga dikarenakan banyak siswa kurang aktif bertanya, aktifitas siswa masih pasif dan hanya berpusat pada guru. Hutan mangrove adalah adalah satu tempat yang dapat digunakan untuk sebagai sumber belajar siswa. Karyawisata ke hutan mangrove adalah salah bentuk pembelajaran yang dapat membantu menguatkan pengetahuan siswa. Penelitian bertujuan untuk menguji karyawisata ke hutan mangrove terhadap hasil belajar siswa. Penelitian eksperimen tanpa kelas kontrol terhadap 20 siswa SMA Negeri Mangipanda di Ende. Tes hasil belajar digunakan untuk mengumpul data. Analisis data menggunakan Wilcoxon test. Temuan menunjukkan bahwa nilai sig. < 0.05. Temuan inimengindikasikan bahwa metode karyawisata ke hutan mangrove berpengaruh terhadap hasil belajar siswa kelas X SMA Negeri Magepanda.

Kata kunci: Pembelajaran biologi, karyawisata, pengetahuan

INTRODUCTION

Biology learning learns about natural phenomena and everything that exists in nature (Penuel et al., 2022). The development of biology has progressed rapidly because it is always closely related to technological developments that provide vehicles that enable these developments (Zitnik et al., 2019). Rapid developments like today have changed educators to be able to design and implement education that is more focused on mastering biological concepts that can support daily activities in society (Rumalolas et al., 2021). Biology is anticipated to serve as a vehicle for students to learn about themselves and the environment, as well as provide opportunities for future application in daily life (Damopolii et al., 2019; Kalas & Raisinghani, 2019). In learning activities, students are required to always be active so that students can develop their potential. In order for biology learning to achieve its goals, there are several things that need to be considered in carrying out biology learning activities.

Based on the results of interviews with Biology subject teachers at SMA Negeri Mangapanda, it was revealed that student learning outcomes on biodiversity material were still below the minimum completeness criterion, namely less than 75. In learning activities, the learning method used was considered boring because learning activities were only carried out in class. The low student learning outcomes are also because many students are less active in asking questions, student activities are still passive and only centered on the teacher. In addition to resulting in low interest in learning in students can also result in students not mastering the lessons that have been delivered by the teacher. In teaching and learning activities students are expected to be able to master the material taught by the teacher. Learning in the classroom as a place of learning cannot be a fun class for students, where students feel bored with the teaching presented by the educator (Lelasari et al., 2021; Nusantari et al., 2021).

In learning takes place in two directions, where teaching is not merely providing information without developing mental, physical and self-appearance abilities. Therefore, the learning process must be developed in an appropriate way so that students get, manage, use and communicate what they have obtained in the learning process (Mandasari et al., 2021; Rahmah et al., 2023). One method that can be used to determine the quality of the teaching process is through the field trip method (Drewery et al., 2023; Higgins et al., 2012; Julien & Chalmeau, 2022; Santos, 2023). Learning activities in this method are not just playing to refresh the mind and cure boredom, but rather to educate students and make them understand subjects well, so that material can be conveyed to students properly (Malik et al., 2022). Suridah et al. (2020) stated that the field trip technique is an approach to education in which students are taken on educational excursions alongside their teachers. Supported by Jumiati (2017), field trips are teaching and learning activities for teachers and students outside the classroom by using concrete learning media and understanding the surrounding environment. The surrounding environment is the best place for students to study (Nusantari et al., 2020).

Mangrove forest is a place that can be used for student field trips. Learning about mangrove forests provides new experiences for students (Asrial et al., 2021). Learning with mangrove forests can develop sustainable behavior, help coastal conservation programs, and increase student understanding (Surjanti et al., 2020). In the mangrove ecosystem there are various kinds of biodiversity that can increase student knowledge (Gitgeatpong & Ketpichainarong, 2022). Students who were taught about meangrove forest conservation showed a change in their knowledge for the better (Chumphong & Embree, 2022). Field trips to mangrove forests are a form of learning that can help strengthen students' knowledge. The existence of facts and natural phenomena that occur in mangrove ecosystems can help students understand the concept of environmental pollution more easily (Ratnasari et al., 2017). When students' knowledge about mangroves increases, the attitude to protect the

environment also improves (Tagulao et al., 2022). Thus, this research aims to test field trips to mangrove forests on student learning outcomes.

METHOD

Quasi experiment with one group pretest posttest design is the type of research used. There are 20 students at SMA Negeri Magepanda who are taught using field trips to mangroves. Saturated sampling is a method of sampling technique. Lessom plans, student worksheets, and research instruments have been prepared by researchers. A total of 7 eesay items to measure student learning outcomes. these questions met the valid criteria with an r_{count} of 0.473 – 0.662 (> 0.444) and a reliability of 0.689. Data analysis uses the Wilcoxon Test on the basis that the data is not normal..

RESULTS AND DISCUSSION

In this study, researchers focused only on learning outcomes in the cognitive domain. Cognitive value aims to measure the knowledge of experimental class students before and after being given treatment with a field trip to the mangrove forest.

Table 1. Data normality

	Shapiro-Wilk		
	Statistic	**df**	**Sig.**
Pre-test	0.936	20	0.203
Post-test	0.782	20	0.000

Data Table 1 Shapiro-Wilk shows that the post-test data is not normal. These findings indicate that the testers then use non-parametric analysis.

Table 2. Wilcoxon result

		N	**Mean Rank**	**Sum of Ranks**	**Sig.**
Post - Pre	Negative Ranks	0	0.00	0.00	0.000
	Positive Ranks	20	10.50	210.00	
	Ties	0			
	Total	20			

The data in Table 2 indicates that there are differences in learning outcomes before and after field trips to mangrove forest students. These findings reveal that field trips to the mangrove forest can improve student learning outcomes.

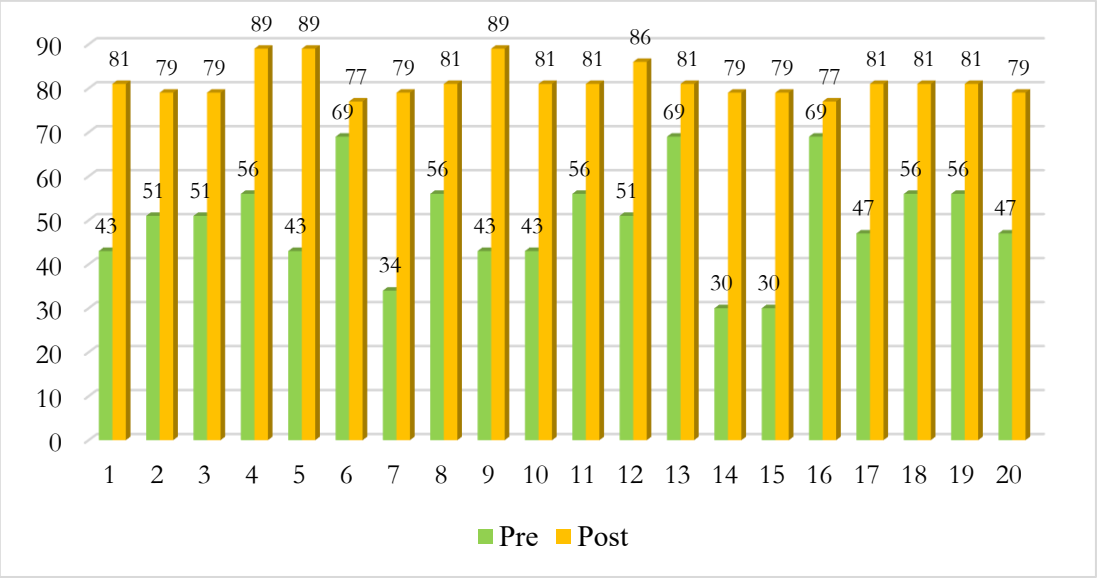

Figure 1. Student learning outcome

Figure 1 reveals that all students experienced increased learning outcomes after their field trip to the grove forest. The highest student score before learning was 69 with a mean of 50.00. When students finished a field trip to the mangrove forest, their learning outcomes increased with the highest score being 89.00 with a mean of 81.45.

The influence of the field trip learning in improving students' cognitive aspects in this study is supported by previous researchers by Surianah (2021), who found that the implementation of the field trip in thematic learning can enhance martial arts achievement student jar. This research was also strengthened by the results of research conducted by Purba (2019), namely the implementation of the field trip to increase learning outcomes on plant parts material. There is an increase in learning outcomes after applying the field trip to mangrove forests in this study, in accordance with the opinion expressed by Kasmini and Musta'in (2016), students who attend classes using the field trip are more likely to be engaged, passionate, and positive about learning.

Learning with the field trip method in mangrove forests is learning that is outside the classroom and brings students directly into the environment, making students active in discussing, asking and answering and listening n directions from the teacher to observe animals and plants in the mangrove forest. In addition, with the field trip method students can work together with their group mates, can improve students' abilities in providing information and opinions to group mates, and can create situations student-centered learning.

Mangrove forests provide a wide variety of living things in it. The involvement of students in learning through field trips to mangrove forests makes them gain various knowledge about the diversity of living things. When students are introduced to mangrove forests, their knowledge increases (Zaini & Asnida, 2016). During a field trip to the mangrove forest, students can observe firsthand the diversity of living things in it. They and their group

mates shared the knowledge they gained during the field trip. In addition, the discussion activities they carried out during the field trip helped strengthen the knowledge they had acquired. File trip-based learning has changed the learning atmosphere to be interesting because it creates a new dimension for students and enriches students' abilities (Mariyappan, 2015). That is why in this research that field trips have an effect on students' cognitive learning outcomes.

CONCLUSION

Based on the data analysis and discussion of the results of the research, it can be concluded that the field trip method to the mangrove forest can affect the learning outcomes of class X students of SMA Negeri Magepanda. Students acquire knowledge and learning becomes interesting because of new nuances in learning.

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