Jurnal Pendidikan Biologi 11 (3) (2022) 52 - 57
Jurnal Pendidikan Biologi
Journal of Biology Education
http://jurnal.unimed.ac.id/2012/index.php/JPB
eISSN: 2502-3810 pISSN: 2086-2245

The Use of Contextual Models in Improving Student Learning Outcomes and Social Skills in Science Learning in Junior High Schools

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INFO ARTIKEL

Histori Artikel
Received 12-06-2022
Revised 16-12-2022
Accepted 20-01-2023
Published 26-01-2023

Keywords:
Contextual Models, student learning outcomes, Social Skills, Science learning

ABSTRACT

This Research is motivated by the low learning outcomes and low social skills of students in science learning. The reality in the field is that students experience difficulties in understanding concepts about inheritance material and the difficulty of students communicating, collaborating in discussion activities during learning. The aim of the research is to improve student learning outcomes and social skills in the matter of inheritance in natural science subjects. This study uses a contextual model with 2 cycles. Based on research results on the use of contextual models can improve learning outcomes and students' social skills in learning natural sciences at SMP Negeri 1 Percut Sei Tuan. This is evidenced by the acquisition of student learning outcomes increasing in each cycle and exceeding the Minimum Completeness Criteria (KKM) score limit of 75. The number of students who completed the first cycle was 18 students (5 6.25 %) and those who did not complete their studies 14 students (43.75 %). After making improvements in cycle II, the percentage of students' learning outcomes was increased by 87.50 % and only 4 students who had not finished with a percentage of 12.50 %. In cycle I students' social skills for aspects of working with friends 75%, aspects of showing social responsibility 62%, aspects of controlling emotions 40.63%, aspects of interacting with others 43.75%, aspects of participating 59.38%, cultivating sportsmanship, discipline and healthy living 51.56%. After implementing improvements in cycle II there was a significant increase in aspects of working with friends (95.31%), showing social responsibility (87.5%), controlling emotions (56.25%), interacting with other people (93.75 %), participating (82.81%), cultivating sportsmanship, discipline and healthy living (62.5%), writing opinions/ideas (73.44%), leading (70.31%).

How to Cite
Yohana, S. (2022). The Use of Contextual Models in Improving Student Learning Outcomes and Social Skills in Science Learning in Junior High Schools. *Jurnal Pendidikan Biologi, 11* (3), 52-57.

INTRODUCTION

Teachers are educators who not only provide knowledge to their students, but also play a role in guiding, training, providing assessments, and evaluating students (Dudung, 2018). Teachers as learning managers are required to be able to plan, organize, implement and be able to create the best learning atmosphere. This is intended so

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DOI: http://dx.doi.org/10.24114/jpb.v11i3.40857

that students can eventually become human beings who are able to face challenges in life (Fauzi, 2018: 243).

Meaningful learning, which was coined by David Ausubel, is a process of linking new information with relevant concepts contained in a person's cognitive structure (Trianto, 2007:25). Changes will be obtained by students in their cognitive structure, modified student knowledge concepts and new knowledge networks will be formed. This is an effective tool to strengthen the implementation of actual learning, which can result in better retention and storage of knowledge in students and facilitates the transfer of knowledge to other real situations (Vallori, 2014: 199).

Teachers are able to facilitate and assist students in learning if the teacher's understanding of a concept is good enough. Various potentials and aspects of student knowledge in the classroom can be developed by teachers by offering different models, approaches and types of learning. Mulyono (2018:89), a learning model is a conceptual framework that describes systematic steps in organizing learning experiences to achieve learning competence. Whereas Warsono & Hariyanto (2013:172), learning model is a description of the learning environment which includes teacher behavior in carrying out learning. One alternative model that can be used to produce meaningful learning is by applying the *Contextual Teaching Learning* (CTL) learning model.

Contextual Teaching Learning (CTL) is a learning system based on the philosophy that a learner will be able to absorb subject matter if they can grasp the meaning of the lesson. In the contextual learning approach, the teacher no longer acts as the only resource person in learning, but acts as a moderator, facilitator, stabilizer and manager of learning. Komalasari (2010:6) states that *Contextual teaching and Learning* is a learning and teaching activity that helps educators connect the material they teach with real-world conditions of students and encourages students to make connections between the knowledge they have and its application in their lives as family members, citizens, country and work. Meanwhile, Adang, *et al*., (2012: 19) states that contextual learning is a holistic educational method and aims to encourage students to explore the meaning of the subject matter and be able to relate it to the context of everyday life. It is intended that students have knowledge/skills that can be applied (transferred) flexibly from one problem/context to another problem/context.

The author's experience teaching in class IX, still finds students who are not active in discussion activities, it is still observed that discussion activities are not effective, such as the presence of some group members who speak off the topic being discussed and find it difficult to express opinions orally. Some of them have not used the notes or writings needed to express opinions fluently and there are even students who from the beginning to the end of the lesson do not participate in discussion activities . The fact is that in learning activities students' social skills are still low, they need to be trained and improved to create a good learning process.

Social skills are one of the student's life skills, which can be divided into two main types, namely (1) communication skills, and (2) cooperation skills (Depdiknas, 2009:14). Communication skills can be done both orally and in writing. According to Ahmadi (2004: 100) states that social skills are the ability to obtain reciprocity between individuals to individuals or groups in their efforts to solve the problems they face.

One of the subjects that students need to master in learning science in class IX of junior high school is the Inheritance of Traits. This subject is a subject that forms the basis for studying genetics, which is expected to support the attainment of better learning outcomes for the high school education level in biology lessons. Facts in the field students experience difficulties in understanding science concepts regarding inheritance material, namely: (1) It

is difficult for students to distinguish mitotic division from meiosis, (2) It is difficult for students to understand the difference between dominant, intermediate, and recessive traits, (3) It is difficult students distinguish between monohybrid and dihybrid mating.

For the most part, teachers teach science concepts through teacher-centered learning, causing students to be less actively involved. Then the teacher lacks variety in using learning media, so students are not given the opportunity to develop their thinking processes as complex. This is one of the causes of low student learning outcomes. One of the basic competencies in science (biology) subjects in class IX is to describe the process of inheritance and the results of inheritance and its application. By using contextual learning models in presenting inheritance material and its application, it is expected to provide meaningful relationships for students. Then it can encourage students to apply the knowledge they have in the realities of everyday life. Students will have responsibility, be able to work together, be able to think critically, be creative, be brave in expressing opinions.

Based on this, it is considered important for researchers to conduct classroom action research on the use of contextual models in improving student learning outcomes and social skills in science learning at SMP Negeri 1 Percut Sei Tuan.

METHOD

Type, place & time of research

The form of this research is classroom action research. Implementation of research in odd semesters in class IX students of SMP Negeri 1 Percut Sei Tuan. It was carried out for three months with 2 cycles.

Research procedure

The research design is in the form of a cycle with 4 stages that must be passed, namely: planning, implementing, observing and reflecting. This stage is repeated in each cycle which is planned to be carried out in 2 cycles. By recycling these four stages, solutions to problems are sought in the form of improvement planning, implementation of the actions that have been prepared along with observation and reflection so as to produce further actions. In the second cycle, this stage is repeated to solve problems in learning.

Data collection & analysis techniques

The data collection technique used is to use a learning achievement test (THB), observation of social skills. The data obtained from each research cycle were analyzed descriptively using the percentage technique to determine the results obtained by students from the aspects of cognitive (knowledge) and psychomotor (skills) assessment. The success rate of students obtained from cycle I and cycle II is averaged based on percentage.

RESULTS AND DISCUSSION

The description and interpretation of research data from cycle I and cycle II can be described as follows. In the initial conditions, the students' test scores were very low, the achievement of learning mastery was included in the very poor category. The results of the initial test, of the 32 students who were the subjects of this study, it turned out that not a single student achieved mastery in learning. When the action was held in cycle I, there was an increase in the number of students who passed, although the number was small, which is presented in the Table 1.

Table 1. Data on Cycle I Test Results

No	Test Results	Information	Total students	Percentage (%)
1	Score 75	complete	18	56.25
2	Score	Not Completed	14	43.75
	Amount		32	100

The results of the test cycle I, there were 18 students (5 6.25 %) who had achieved learning mastery while 14 students (43.75 %) had not achieved learning mastery. From the results of observations of students' social skills carried out by observers in cycle I on student activities in learning activities using Contextual models on the mat ti of the inheritance of properties, the following in Table 2.

Table 2. Data on the Percentage of Social Skills of Cycle I Students based on Observations

No	Observed Aspects	Total score	Percentage of Cycle I (%)
1	Team up with friends	48	75
2	Demonstrate social responsibility	40	62
3	Control emotions	26	40,63
4	Interact with others	28	43.75
5	Participate	38	59,38
6	Cultivating sportsmanship, discipline and healthy living	33	51,56
7	Write down opinions/ideas	46	71.88
8	Lead	26	40,63
	Average	285	50,73

Based on the data obtained, it can be seen that students' social skills in the aspect of working with friends get a score of 48 (75%), aspects of showing social responsibility score 40 (62%), aspects of emotional control get a score of 26 (40.63%). Another score is 28 scores (43.75%) for aspects of interacting with other people, 38 scores (59.38%) for participating aspects, 33 scores (51.56%), cultivating sportsmanship, discipline and healthy living, writing opinions/ideas 46 (71.88%), leading 26 scores (40.63%). Analysis of student learning outcomes in cycle I was still better than the initial test even though the results were not optimal, and social skills began to develop even though they did not show better results. By paying attention to the table above, it can be seen that the analysis of learning outcomes on material inheritance in the cycle I test turned out to be better than the initial test (pre-test), although the results were not optimal enough, so it still needs to be continued to the implementation of cycle II.

In this process in overcoming the problems of student learning outcomes and social skills, the researcher continued cycle II with more specific planning for students who had low learning outcomes and social skills. Learning activities using contextual models on inheritance material, the learning outcomes obtained in cycle II are presented in the following table:

Table 3. Data on Cycle II Test Results

No	Test Results	Information	Total students	Percentage (%)
1	Score 75	complete	28	87.50
2	score	Not Completed	4	12.50
	Amount		32	100

Based on the results of the second cycle test, it is known that out of 28 students (87.50%) have achieved learning mastery. Meanwhile, 4 students (12.50%) had not achieved learning mastery. The results of observations about students' social skills carried out when learning in cycle II took place obtained data in table 4.

Table 4. Data on the Percentage of Social Skills of Cycle I Students based on Observations

No	Observed Aspects	Total score	Percentage of Cycle II (%)
1	Team up with friends	61	95.31
2	Demonstrate social responsibility	56	87.5
3	Control emotions	36	56.25
4	Interact with others	60	93.75
5	Participate	53	82.81
6	Cultivating sportsmanship, discipline and healthy living	40	62.5
7	Write down opinions/ideas	47	73.44
8	Lead	45	70.31
	Average	398	77.73

Based on the table above, data is obtained that the social skills of students have increased. Based on the results of the study of 32 students, the aspect of working with friends obtained a score of 61 (95.31%), the aspect of social responsibility with a score of 56 (87.5%), emotional control has a score of 36 (56.25%). While the score on interaction with other people is a score of 60 (93.75%), participating with a score of 53 (82.81%). Then the score on empowering sportsmanship, discipline and healthy living is 40 (62.5%), able to write opinions/ideas a score of 47 (73.44%), leads obtain a score of 45 (70.31%).

By looking at the table above, it can be analyzed that the learning outcomes on inheritance material using the contextual learning model in the first cycle test turned out to be better than the initial test (pre-test) even though the results were not optimal, so improvements are still needed by carrying out cycle II. In the implementation of the actions in cycle II, maximum results were obtained so that better learning mastery was achieved, this can be seen from the number of students who already understand the material of inheritance, most of the students in class IX-1 have achieved learning mastery scores (above 75). The number of students who achieved completeness as many as 28 students showed very significant achievements even though there were still 4 more students who had not achieved completeness, according to the researchers this was due to the lack of activity of these students.

CONCLUSION

Based on the results of the discussion that has been described previously, classroom action research on the use of contextual models can improve student learning outcomes and social skills in learning natural sciences at SMP Negeri 1 Percut Sei Tuan. This is evidenced by the acquisition of student learning outcomes increasing in each cycle and exceeding the Minimum Completeness Criteria (KKM) score limit of 75. The number of students who completed the first cycle was 18 students (5 6.25 %) and those who did not complete their studies 14 students (43.75%). After making improvements in cycle II, the percentage of students' learning outcomes was increased by 87.50 % and only 4 students who had not finished with a percentage of 12.50 %. In cycle I students' social skills for aspects of working with friends 75%, aspects of showing social responsibility 62%, aspects of controlling emotions 40.63%, aspects of interacting with others 43.75%, aspects of

participating 59.38%, cultivating sportsmanship, discipline and healthy living 51.56%. After implementing improvements in cycle II there was a significant increase in aspects of working with friends (95.31%), showing social responsibility (87.5%), controlling emotions (56.25%), interacting with other people (93.75 %), participating (82.81%), cultivating sportsmanship, discipline and healthy living (62.5%), writing opinions/ideas (73.44%), leading (70.31%).

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