

Profile of 21st Century Collaboration Skills in Biology Learning at Muhammadiyah 3 Jember

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Abstract: In 21st century learning, collaboration skills are one of the skills that students really need. This research aims to determine the ability to collaborate in biology learning at SMA Muhammadiyah 3 Jember. This type of research is descriptive. This research was carried out at SMA Muhammadiyah 3 Jember. Data collection techniques using observation methods. The data obtained from observations at school were then analyzed descriptively. The results of this research show that the ability to collaborate in biology learning at SMA Muhammadiyah 3 Jember is quite good given the differences in characteristics of each student as well as students' interest in learning in different biology subjects. The conclusion from the results of this research is that the ability to collaborate in biology learning is quite good.

Keywords: Collaboration Ability, Biology Learning.

INTRODUCTION

According to (Aripin et.al., 2020) 21st century learning is learning designed for students to be able to keep up with the times. The very rapid development of science and technology requires the younger generation to have a variety of skills found in 21st century learning. Naiyiroh, F. (2022) said a learning paradigm that was initially teacher-centred to student-centered is a major task for an educator. Students are given the freedom to search for learning resources and are required to be able to learn independently, actively and collaboratively. Students are required to master the competencies that exist in the 21st century, including collaboration skills (Sholikha & Fitrayadi, 2021).

Collaboration skills are skills that a person must have to be able to actively collaborate and tolerate team members, as well as practice smooth decision making and mutual agreement. (Redhana, 2019). Biology subjects are developed through analytical, inductive and deductive thinking skills to solve problems related to environmental events. Activities in the scientific method invite students to observe natural events, formulate problems, formulate hypotheses, carry out experiments to test hypotheses, draw conclusions, and prepare scientific reports. These scientific activities facilitate students in practicing collaboration skills (Phi, J., Sinta, M., Sakdiah, M., Novita, N., & Ginting, F. W. (2022).

Based on the results of observations and interviews with biology subject teachers at SMA Muhammadiyah 3 Jember, the learning process in the classroom has shown collaboration between students. This is proven by the existence of interaction between one student and another, but there is a

problem, namely that the interaction between students is not just discussing the lesson but is taken out of the context of the lesson and student participation in group work is not very good. According to (Sayyidah 2018) in his research, the collaborative learning process using the group discussion method has indeed been implemented in the learning process, it is very visible that students tend to only want to show their own abilities, not the group's and often the results of the group assignments are good but not the result of collaboration. each member of the group, but rather the result of several members who have more intelligence than other members (Riyawan,.2019).

METHOD

This research is a type of descriptive research which aims to determine the profile of collaboration abilities in biology learning at SMA Muhammadiyah 3 Jember for the 2023/2024 academic year. The research design used is the implementation stage, observation and data collection techniques in this research, namely conducting observations during learning to determine students' collaboration abilities and conducting interviews with biology subject teachers regarding students' collaboration abilities. The data collection instrument is an observation sheet which is used to measure students' collaboration skills during the learning process according to predetermined indicators. Observation sheets in the form of collaboration rubrics and interview sheets were used in this research. Indicators of collaboration skills in this research consist of the ability to take responsibility, cooperation, and compromise.

The indicators listed in the observation sheet rubric have been validated by the validator. The validator in this research was a biology education lecturer before conducting research at SMA Muhammadiyah 3 Jember to determine the suitability of the observation sheet for use. The researcher used a sample of all students from several classes totaling 147. Stevansyah, M., & Yasa Utama, F. (2022) Collaboration ability data in this study was obtained from the results of observation sheets with researchers observing directly, namely participating in teaching and learning activities during class hours to find out students' activities during teaching and learning activities as well as activities teacher while teaching. With this, researchers know and can collect the data needed. Research activities were carried out repeatedly over 3 meetings to obtain accurate results Mona, N., & Rachmawati, R. C. (2023).

The collaborative observation assessment sheet analysis technique is carried out by analyzing the value of each indicator which is then classified into five criteria, namely very good, good, quite good, not good and very poor. Collaboration abilities can occur because the learning process starts from orienting the problem to getting a solution. Suaidiah, S., Jamaluddin, J., & Hardiana, H. (2024), Problem orienting activities carried out at the beginning of learning are able to train the ability to compromise in determining the tasks of each group member to create a result or solution that is strengthened by the facts or evidence of the problem being determined. This is also supported by research results from (Riyawan,.2019) that collaboration skills can train in exchanging ideas and information to find creative solutions and success in completing tasks depends greatly on the extent to which they interact with each other.

RESULTS AND DISCUSSION

Based on the results of research on collaboration skills in biology learning at SMA Muhammadiyah 3 Jember, according to the results of data analysis of observation sheets and interviews of subject teachers, students' collaboration abilities in biology learning at SMA Muhammadiyah Jember are quite good. Based on

facts in the field, students' collaboration abilities are caused by students, teachers and the environment. This is supported by research conducted by Alfaeni, D., Nurkanti, M., & Halimah, M. (2022), explaining that influencing factors include 1) physiological factors, 2) psychological factors, and 3) environmental factors. Allow by Fera Anisa. (2023), Physiological factors in the form of physical problems such as illness, unwellness, and physical disabilities. Meanwhile, psychological factors include student intelligence, student talents and interests, and student motivation. Teacher factors in using inappropriate teaching and learning strategies in the learning process. Meanwhile, the learning environment factor is the building/classroom used in the learning process. If the room used in the learning process is close to busy areas, the room is dark, the floor is wet, the room is narrow, then the learning situation will not be good.

Apart from that, students' collaboration abilities are still quite good and not yet good because students' activeness during learning is still lacking. This can be seen when teaching and learning activities take place, the communication that occurs is no more than just between the teacher and several students in one class Ahmad Slamet Riyadi. (2019). From the results of observations, the learning atmosphere that occurred was considered passive because the interaction occurred only between the teacher and a few students. Then, when facing a problem, not many students collaborate to express ideas appropriately, students have difficulty communicating their thoughts to peers and teachers and have difficulty managing their thoughts so they cannot get a solution to the problem correctly. Then uninteresting teaching methods can cause students to become passive, so that students have no learning activities. Selecting inappropriate strategies can cause one-way communication and have an impact on learning outcomes. Tami, M., Ahwan, R., & Basuki, S. (2023).

This learning process is the main cause of low communication and collaboration, but the learning process will also be a solution for creating student communication and collaboration in learning and this depends on the role of a teacher as a facilitator for students, one of which is the appropriate learning method or strategy. used by teachers. Based on the facts that occurred during the research from Angelyn, C., Simatupang, H., & Sianipar, D. (2021), the learning process was the main factor, the teacher was the facilitator and mediator for the students. However, allowed Sangadah, K., & Lestari, S. (2023) not all teachers use the lecture method, there are also teachers who have used group learning, but it is less than optimal and results in learning that is not conducive and requires a long time in the learning process, including the process of doing assignments, which sometimes exceeds the time specified by the teacher, this is because students who have been formed into groups to collaborate to solve problems apparently do not all contribute, only a few people, namely those who are capable and feel they can do it while the others are busy talking about something outside the learning topic or some are even sleeping and having fun playing games while other friends are discussing. This fact is also supported by previous research by Sayyidah (2018).

Khoirul Huda. (2020), The ability to collaborate is part of the demands of 21st century skills that must be possessed by everyone, especially students, both communication and collaboration are interrelated so that communication will be formed if students collaborate with each other, as well as collaboration will be formed if there is communication in the learning process. In order for collaboration to occur, students must have different roles in heterogeneous student groups so that there will be mutual collaboration between students and the emergence of positive dependence between individuals and collaboration within student groups. Based on (Hartono, 2019) This can be facilitated by the teacher as the teacher's role is as a facilitator in learning. In addition, the learning process in groups will help students discover and build their own understanding of the subject matter. They have the

opportunity to communicate or present an idea or idea that they have, convey different beliefs to each other, ask questions about different conceptual frameworks and be actively involved so that a process of communication and collaboration in learning is formed.

CONCLUSION

Based on data analysis and problems from the research results, it can be concluded that the collaboration abilities of students at SMA Muhammadiyah 3 Jember are in the quite good category. This is known from the results of observations and interviews conducted by researchers in the field. Several factors cause a lack of collaboration among students, such as physiological factors, psychological factors, and environmental factors. Apart from that, learning strategies such as learning methods and models used by teachers also influence collaboration between students in biology subjects in the classroom. Therefore, teachers must always have new innovations to build student enthusiasm and collaboration between students during class hours

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