

Collaboration-Based Learning in the Era of the 4.0 Industrial Revolution

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ARTICLE INFO

Keywords:

learning;
collaboration;
outing class;
discussion;
communication

Article history:

Received 2022-01-02

Revised 2022-05-14

Accepted 2022-09-20

ABSTRACT

The purpose of this study is to describe collaboration-based learning in elementary schools. This type of research is qualitative research with a phenomenological approach. The speakers in this study were teachers and principals. Collecting data through observation, in-depth interviews, and documentation study. The validity of the data used was the triangulation of methods and sources. Data analysis in this study used data reduction, data presentation, and conclusion drawing. The results of the study show 2 ways: 1). Collaborative learning, where students do more learning through class discussions and completing assignments in groups. The implementation of this collaborative learning is carried out to create child-friendly schools that always involve students in real activities. Teachers who teach learning in both high and low classes orientate their students to always communicate and interact in the teaching and learning process. 2). The implementation of the outing class is carried out programmatically by each class teacher to suit the theme being studied. This activity is carried out in places that have a value following the theme being studied to achieve student attitudes. This activity has been programmed in all classes with the scheduling system for each class.

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1. INTRODUCTION

The development of the industrial revolution 4.0 builds a virtual human interaction civilization, the mindset and ways of communicating with humans are increasingly displaced in digitalization activities which gradually cause the degradation of the character of the nation's children, especially in education (Sutarna, 2018). Education as a vehicle for the development of golden generations that will advance the nation will increasingly show the impact of the quality of the output of the learning process that has been implemented is not building Indonesian people. The activity of using students' technology has an unhealthy impact on learning activities in the classroom, and the development of their character is related to the quality of student learning outcomes. This is in line with (Chusna, 2017) that many negative impacts

will arise, including being difficult to socialize, sluggish in motorbike development, and significant behaviour changes.

Living in the era of the industrial revolution 4.0, the presence of teachers in teaching students is demanded to be more professional. 21st-century teachers are not only expected to transfer knowledge and must also be able to present a meaningful learning atmosphere that is joyful learning while remaining oriented towards information technology in the learning process smartly and healthily, which can be used in learning activities as well as instilling prevailing norms, and cultural elements. as well as local wisdom which becomes the identity of the nation as the opinion states that implementing interactive learning and joyful learning based on Information and Communication /Information Technology can increase children's enthusiasm for learning (Yazdi, 2012). By presenting smart and healthy learning, it will certainly change the classroom climate that builds student discipline through activities that direct students to always collaborate so that they can strengthen the learning process and their learning outcomes. The benefits of collaborative learning are also presented by several relevant studies, which also have benefits for teachers to monitor learning that leads to interactions between students so that they can establish intense communication to work together (Mahsus, M., & Latipah, E. 2021, Ruminda, M., Keke, Y., Saribanon, E., & Sari, M. (2022).

The way of packaging learning experiences designed by the teacher greatly influences the meaning of the experience for students. The learning experience shows more connection with conceptual elements to make the learning process more effective (Suryani, N, 2010). The effectiveness of this learning can lead to positive behaviour, such as students can have an attitude of responsibility and discipline and having other characteristics that can improve the quality of their behaviour. With the application of discipline, students learn to adapt to a good environment so that self-balance appears in relationships with others (Tulus, 2004). The success of students in building relationships with other people can certainly work well if students are trained to always collaborate in teaching and learning activities in the classroom. This is in line with (Funali, 2014), which states that primary school student learning outcomes increase with a tone of collaboration because collaboration is considered fun for students.

The conceptual framework on which this study is based (Mahanal, 2014) describes Collaboration as skills to work together in groups effectively and respect each other. In collaboration skills, students are trained to be willing to help each other, compromise, and be responsible for the assigned task. (Raniah, 2018) explain that the indicator of collaborative skills is a skill that requires students to work effectively and systematically in groups, be responsible for themselves, respect and help group members to solve problems, and achieve common goals.

Collaboration skills (Mahanal, 2014) define collaboration skills as skills to work together in groups effectively and respect each other. In collaboration skills, students are trained to develop a willingness to help each other, compromise, and be responsible for the assigned task (p.4). (Raniah, 2018) explain that the indicator of collaborative skills is a skill that requires students to work effectively and systematically in groups, be responsible for themselves, respect and help group members to solve problems, and achieve common goals. Collaborative learning foundation for developing social skills, respect and responsibility (Apriono, 2013).

Communication skills, according to (Raniah, 2018) which define communication skills are the skills of 21 students in expressing all thoughts both orally and in writing in developing their abilities in facing the challenges of the 21st century (p. 19-24). Communication skills are considered very important for students. Besides developing students' communication skills with school members, students must also have communication skills with people outside the school. This is intended to develop students' social skills with the community. One way that is usually done is by implementing an outing class. According to Vera (Maryanti, S., Kurniah, N., & Yulidesni, 2019), the outing class activity aims to invite children to adapt to the environment, natural surroundings, and community life, to get to know the importance of life skills and experience living in the environment (Pratiwi, I. A., Ardianti, S. D., & Kanzunnudin, 2018).

For this reason, a teacher must and must transform his teaching method by taking into account the needs and demands of the times. To build a learning space that is ready for student development in 21st-century learning that leads to 4C activities, one of which is Collaboration. Collaboration is a learning activity that requires students to always work together. In fact, according to the Chairman of the Executive Board of the Indonesian Teachers Association (ITA/ in Indonesia Called PGRI) Smart Learning Center, Unifah Rosyidi said, "The transformation of teachers as a driver of change must follow global developments.

Based on observations, the results of observations show that Muhammadiyah I Elementary School has made significant progress, namely the school is known as the school literacy program. As a literacy school that can provide students with various activities to support their learning. This description of collaborative learning is certainly able to develop the ability of teachers as facilitators in the classroom in building meaningful 21st-century learning (Suryani, 2010). Therefore, this study sought to analyze the Collaboration Based Learning in tThe Era oOf The 4.0 Industrial Revolution by answering the following research questions: How to apply collaborative based learning in the classroom?

2. METHODS

This research includes qualitative research used to examine the condition of natural objects, the researcher is the key instrument, purposive and snowball sampling. This study is qualitative with a phenomenology design. This study focused on school' activities in Solo City, Indonesia, about collaboration based learning in classroom. The authors conducted this study at SD Muhammadiyah I Solo City, Central Java, Indonesia. This study was conducted from Maret 2020 to Maret 2021.

The data in this study consist of transcripts of in-depth interviews as well as transcripts of observations. The data sources in this study were informants from three selected elementary schools (see Table 1). The data obtained in this study came from the results of in-depth interviews with sources and resource persons, careful observations and supporting documents in the form of lesson plans and pictures of activities. The criteria for informants are people who are involved in collaborative learning activities both from teachers and from students. the answers submitted by the informants are guaranteed to be confidential.

Table 1. Description of Informants

No	Initial	Gender	Role
1	SSy	Female	Teacher
2	MM	Male	Student
3	Jmt	Male	Teacher
4	MB	Male	Student
5	Md	Female	Student
6	SSW	Female	Teacher
7	TS	Female	Headmaster

The collection technique is triangulation (combined), the data analysis is inductive/qualitative, and the research results emphasize meaning rather than generalization. The research was conducted at Muhammadiyah I elementary school, Surakarta. Data collection techniques are through 1) in-depth observation of collaborative activities carried out by students in the learning process in class and outing class activities, 2) interviews conducted with several upper-class students openly and class teachers and subject teachers, namely sport teachers and teachers art and religion, and 3) the documentation used is a learning journal that uses collaborative learning as well as some written evidence related to the existing routing class reports. Source triangulation is done by checking the data obtained from several different sources. Technique triangulation is done by checking data to the same source in different ways. The data analysis technique is carried out through inductive techniques through an interactive analysis process, which is carried out systematically to make it easier for researchers to obtain conclusions.

The analysis technique consists of three streams of activities that occur simultaneously (Miles, 2019), namely: data reduction, which is carried out by concentrating only on relevant data, if there is less relevant data, then it is not used, the presentation of the data is carried out through narrative, and the analysis is combined with updating the relevant theory and conclusion/verification.

3. FINDINGS AND DISCUSSION

Findings

The implementation of this collaborative learning is carried out to create child-friendly schools that always involve students in real activities. Education in the era of the industrial revolution 4.0 or often known as 21st-century learning at Muhammadiyah I elementary school. perform collaborative learning, problem-based learning, critical and creative thinking. For example, students are collaboratively given problem-solving questions to solve by searching and gathering information from various sources. The teacher provides space and time for students to communicate and collaborate in discussions in class and outside the classroom. This is in line with the class teacher's statement, which states that: This is the teacher's statement explaining the existence of collaborative activities in each learning syntax.

"The teacher provides activities to students in the form of group work as a means for students to interact and collaborate, so that there is no joint between them, to get to know each other, to understand each other".

This is also made clear by another teacher's statement that "every teacher who teaches must implement active learning where one of the characteristics of active learning is the existence of collaborative activities in the teaching and learning process".

This statement is in line with the results of observations that have been made that some teachers who teach learning both in the upper and lower classes orientate their students to always communicate and interact in the teaching and learning process. This is also supported by the lesson plan documentation available on the aspects of the learning steps, which include collaborative learning activities as the model used.

The implementation of the outing class was carried out programmatically by each class teacher to suit the theme being studied. This activity is carried out in places that are considered to have a value following the theme to be studied to obtain student attitudes. Activities that lead to collaborative activities outside of class hours can also be seen in outing class activities. The teacher provides activities that can lead students to interact with people outside the classroom/school by carrying out class outing. This activity has been programmed in all classes with the scheduling system for each class. The outing class process provides freedom for students to collaborate to conclude together then present the results of their work according to the information obtained from communicating with others. As the following interview excerpt:

In the interview activity to collect this information. Students are given habituation to interact with one another. Because in essence humans cannot be separated from the process of interacting with other people (Class Teacher Interview).

Humans need other people to survive. Therefore students need to learn to develop communication skills as a provision for living in this community. This is also in line with the motto of SD Muhammadiyah I Ketelan Surakarta, which should always say Please, Thank You, Sorry, and Excuse me. As the principal of the school said as follows: "Starting to get children used to the culture of queuing, say the words" Please ", " Thank You ", " Excuse me ", and " Sorry ". Teach children if you want to do something for other people, express it politely.

Because the wrong style of speech can make children seem uncomfortable. So that in collaborating and communicating, students maintain the value of good attitudes. Based on this explanation, it can be concluded that the activities carried out by the teacher in the teaching and learning process are applied collaboratively. This can be seen by the existence of learning activities that use group work, discussion, and outing class activities. So that students always cultivate the value of togetherness and cooperation

in realizing common goals. According to the principal of SD Muhammadiyah 1 Surakarta Collaborative learning provides benefits:

The students gained various experiences of collaborating not only with fellow classmates but with other students who had not previously known. In this collaborative, there is interaction between students who are only known to be focused because they follow the program that has been planned by the teacher and activity can generally encourage motivation and a competitive spirit in a positive sense for students.

It is also based on students who feel the impact of learning by collaborating as follows: collaboration in learning makes us more able to appreciate each other (MM). Learning to use collaborative ways makes us inspired by the experiences of friends (TS).

The teacher creates an atmosphere of ongoing learning so that it is carried out properly in several ways: a). stimulate student curiosity. 2). Always so that the motivation for student activeness always appears when learning. 3). Involving student involvement and participation in learning, for example, seen in the use of instructional media. Therefore, in learning, the teacher must be able to stimulate students to strengthen curiosity, identifying, and problem-solving skills. A good teacher in 21st-century learning is a teacher who can work with students to find out how to do something, how to know something, and how to use something.

Table 2. Description Result

Initial	Role	Aspect	Result
SSy	Teacher	Collaboration	students to interact and collaborate so that there is no joint between them, to get to know each other, to understand each other.
MM	Student	Outing Class	collaboration in learning makes us more able to appreciate each other
Jmt	Teacher	Active Learning	teaches must implement active learning where one of the characteristics of active learning is the existence of collaborative activities in the teaching and learning process
MB	Student	Outing Class	Learning to use collaborative ways makes us inspired by the experiences of friends.
TS	headmaster	Communication	In this collaborative, there is interaction between students who are only known to be focused because they follow the program that has been planned by the teacher and activity can generally encourage motivation and a competitive spirit in a positive sense for students.
SSW	Teacher	Learning Activities	Involving student involvement and participation in learning, for example, seen in the use of instructional media.

Apart from the efforts that have been made by the teacher, other methods are taken by schools to improve the quality and ability of teachers in teaching. One of them is by conducting a training program or workshop, as well as regular monthly guidance with the principal. The role of teachers in 21st-century learning is as a guide, discussion guide, and measure of student progress. Therefore, the implementation of training programs on 21st-century skills will greatly affect the improvement of teacher quality and teacher understanding in implementing 21st-century skills. Based on this, it is hoped that teachers can make students responsible for the assignment given. The teacher also accustoms students to doing group assignments, the longer the students become accustomed and willing to share assignments. Gradually students become more responsible for their duties because they do not only get input from the teacher but their peers. This statement shows that students' sense of responsibility in doing assignments can be formed from group activities.

Discussion

Learning is a complex internal process, involving the cognitive, affective and psychomotor domains. Teachers should be able to arrange learning events according to the learning phases and the desired learning outcomes. Muhammadiyah 1 elementary school has implemented 21st-century learning which includes: collaborative learning, problem-based learning, and critical and creative thinking. Muhammadiyah elementary school has been implementing collaborative learning for a long time, and this learning has often been done even though there has been no direction from the government to implement the 2013 curriculum. For example, students collaboratively are given problem-solving problems to be solved by searching and gathering information from various sources. The teacher provides space and time for students to communicate and collaborate in discussions in class and outside the classroom. This is in line with the opinion of (Faulinda, E. N., & Aghni Rizqi Ni'mal, 2020), which states that the role of teachers in 21st-century learning is as a guide, discussion guide, and measure of student progress. A good teacher in 21st-century learning is a teacher who can work with students to find out how to do something, how to know something, and how to use something.

This follows the opinion of (Mahanal, 2014), which defines collaborative skills as skills to work together in groups effectively and respect each other. In collaboration skills, students are trained to develop a willingness to help each other, compromise, and be responsible for the assigned task (p.4). The informant revealed that every time a group activity was carried out, students felt more interested and enthusiastic. This is in line with the research conducted by Pratiwi et al. (2018) which revealed that group learning can improve student collaboration skills and learning outcomes. Increased collaboration skills and student learning outcomes can be achieved by carrying out group activities repeatedly with teacher guidance and direction. Teachers bring an internal, external and collaborative orientation to their professional learning (Sari, 2021).

Cooperation is known to increase the ability to interact and have confidence in the parties involved in the collaboration (Kristiani, 2019). The results of the study state that cooperation is an activity that is planned to be carried out to inculcate the habit of mutually supporting and helping, training oneself, and developing self-potential through group work together. to help each other and benefit each other in achieving common goals. This is in line with learning activities carried out by students in the classroom, where students jointly develop their competence to collaborate in completing their respective assignments in achieving their goals. The teacher's role is very important in classroom management which directs students to communicate and collaborate with each other because classroom management is the key to successful learning (Minsih, 2018).

The implementation of group activities carried out by the teacher, only focuses on solving problems with the written method. Students are given assignments to solve problems just by reading the questions than answering them. This is different from the research conducted by (Pratiwi, I. A., Ardianti, S. D., & Kanzunudin, 2018) which suggests that in carrying out group assignments students are not only given memorizing tasks but group activities must be arranged by the teacher with challenging and fun activities, such as playing, sticking, drawing and other innovative activities (p.180-182). Unconsciously this situation makes students feel bored so that it reduces students' enthusiasm and activity in doing group assignments.

As a result, the objectives of carrying out group assignments which are expected to increase respect and mutual assistance cannot be achieved. When doing group activities students must be able to be responsible for the assignment given. So that teachers must be able to motivate students to develop a sense of responsibility. The teacher must also be able to guide students to share assignments among group members so that students will learn to reduce selfish attitudes toward each other. The teacher has tried to develop a sense of responsibility for students by providing positive feedback.

This is in line with research (Umar, 2018) which explains that group learning can improve student learning outcomes. This increase is because group activities can train students to understand their position as social beings, namely fostering good relations between friends, being responsible, and

understanding the rights of others. based on Napitupulu (2020). The benefits of collaborative learning: 1) learning is much more fun; 2) not feeling tense and depressed; 3) relax in the learning process but stay focused; 4) each student becomes more open to each other both with friends and with researchers; 5) feel involved and valued because each individual collaborates and participates; 6) become more motivated; and 7) able to create useful plans, ideas and ideas. Collaborative learning is carried out by teachers to monitor the learning that leads to interaction between (Mahsus, M., & Latipah, E. 2021, Ruminda, M., Keke, Y., Saribanon, E., & Sari, M. (2022).

The teacher's role in the implementation of learning is very important and determines the level of success, including activities outside the classroom. The implementation of the outing class was carried out programmatically by each class teacher to suit the theme being studied. This activity is carried out in places that are considered to have a value following the theme to be studied to obtain student attitudes. It is in line with the research results which show that: (1) the class learning outing program can instill the values of independence to grade I students of Al-Hidayah Islamic Elementary School (2) Students have high curiosity (3) Free in making decisions (4) Enjoy looking for new experiences (5) Having the ability to solve problems (6) Making learning more effective and able to form creative students, have a noble character, obey religion, excel and have a global perspective (Anggraeni, 2019). So that the implementation of outing class learning can have an impact on increasing student learning creativity at Al-Hidayah Islamic Elementary School, Pamulang. The teacher also feels that the impact of the outing class program can foster student attitudes, both independence, responsibility, and cooperation.

This program is held aimed at increasing collaboration between teachers, between students, and between teachers and students. As the opinion states that the purpose of this study is to create awareness of a conducive environment for teachers through outing class activities (Patonah, S., Rahardjo, S. B., Cari, C., & Sajidan, 2018). This was also conveyed by Darma that the results of the study showed that through outing class activities and programs, multicultural values in the form of student awareness that we're able to build self-respecting behaviours with different opinions and beliefs, culture, ethnicity, and social class could increase properly (Darma, A., & Joebagio, 2018). Collaborative Learning increases learners' participation and gives learners more opportunities to use the target (Miles, 2019). Collaborative learning foundation for develop social skills, respect and responsibility (Apriono, 2013).

The skills of the 21st century must be explicitly taught. In short, 21st-century learning has the basic principle that learning must be student-centred, collaborative, contextual, and integrated with society. The role of teachers in implementing 21st-century learning is very important in realizing a better future for the nation's children. Every student has a different way of learning, so teachers are challenged to find ways to help all students learn effectively. Based on the above opinion, it can be concluded that this outing class activity has the following objectives: Forming positive character of students (responsibility, independence, and discipline), building collaboration between students, creating a representative environment for students.

4. CONCLUSION

The integration of 21st-century skills in classroom learning can be seen in the integration of collaborative skills carried out by implementing group activities and discussions. Group activities should be carried out in fun and challenging manner, but in group activities in class and teachers only focus on solving problems by presenting the results in writing and orally (presentations). Students do more of this collaborative learning through group assignments. Collaborative learning foundation for developing social skills, respect and responsibility. Outing class is a teaching-learning activity carried out outside the classroom which is oriented towards collaborative learning because learning 21st-century skills will greatly affect the improvement of the quality of learning and student understanding. The outing class was implemented programmatically by each class teacher to suit the theme being studied. This activity is carried out in places that are considered to have a value following the theme to

be studied to obtain student attitudes. This activity has been programmed in all classes with the scheduling system for each class.

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