JPSD Vol. 10 No. 1, March, 2024
p-ISSN 2540-9093,
e-ISSN 2503-0558
DOI: http://dx.doi.org/10.30870/jpsd.v10i1.20300

ANALYSIS OF COLLABORATION SKILLS DEVELOPMENT IN STUDENTS THROUGH PROBLEM SOLVING LEARNING MODEL

Dinda Pramestia Sailendra[1], M. Taufik[2], Reksa Adya Pribadi[3]
Elementary School Teacher Education, Faculty of Teacher Training and Education, Sultan Ageng Tirayasa University
Serang – Indonesia
2227190048@untirta.ac.id

Article Info

Article History:

Accepted
March 2024

Revised
November 2023

Approved
October 2023

Abstract

In the era of globalization and the rapid development of technology, students should have more comprehensive and holistic skills to face future challenges. One of the most needed skills is collaboration skills. The path of education and learning is one of the provisions for developing these skills, including applying a problem-solving learning model. This research aims to determine learning planning with the problem-solving model, the process of implementing learning with the problem-solving model, and the results of developing collaboration skills in students through the problem-solving model. This research uses a qualitative descriptive method where the data collection uses data in the form of words and pictures. The resource persons of this research are 22 people consisting of 1 school principal, 2 2nd grade teachers, and 19 students of 2nd grade Andalusia Class. The research results showed that in the learning activities with the problem-solving model, the teacher goes according to the plans prepared in the lesson plan and carries out learning activities according to the problem-solving syntax to develop collaboration skills for students, especially in 2nd grade Andalusia class.

Keywords: Collaboration Skills; Problem-Solving Models

JPSD Vol. 10 No. 1, March, 2024
p-ISSN 2540-9093,
e-ISSN 2503-0558
DOI: http://dx.doi.org/10.30870/jpsd.v10i1.20300

A. Introduction

In the era of globalization and the rapid development of technology, students must have more comprehensive and holistic skills to face future challenges. One of the most needed skills is collaboration skills. Collaboration skills are working with others effectively to achieve a common goal. Individuals must develop and master collaboration skills because almost all industrial fields in the Industrial Revolution 4.0 era require individuals to work effectively in a group. Therefore, it is crucial to develop collaboration skills starting at an early age.

Elementary school students are the right group to develop collaboration skills. Elementary school is the initial stage in formal education, where students begin the learning process in various subjects. At this time, students are experiencing significant social and emotional development. Collaborating requires students to take individual responsibility, interact, and work together as a team in constructing creative ideas, so students are encouraged to find a variety of opinions in solving mathematical problems through flexible collaboration (Takaria & Talakua, 2018).

The ability to collaborate is one of the most discussed topic issues during the post-pandemic situation in 2020. Changes in people's behavior, especially students, are increasingly visible as they have been learning from their respective homes for quite a long time. The sophistication of the features in gadgets such as online games, Instagram, Facebook, and other applications makes them more interested in gadgets than the surrounding environment (Subarkah, 2019).

Using gadgets too often makes students lose track of time, triggering phenomena such as individualism, introversion, anti-social behavior, difficulty joining the real world, and unhealthy competition. One of the things that is very worrying is the triggering of individualistic character in children. Students feel they do not need to deal with many people and always put their interests first. That state makes students lose a sense of togetherness, and selfishness emerges to beat one another. Even though it would be wonderful if students could help each other and work together, it is one of the state's goals to educate the nation's life rather than to educate oneself.

JPSD Vol. 10 No. 1, March, 2024
p-ISSN 2540-9093,
e-ISSN 2503-0558
DOI: http://dx.doi.org/10.30870/jpsd.v10i1.20300

One provision to anticipate these problems is through education. Education is not only carried out to develop knowledge based on the core subject of learning but also must be oriented by the teacher so that students have collaborative abilities (Rahmawati et al., 2019). Teachers must be able to develop approaches, strategies, and learning models appropriate to the diverse conditions of students and the characteristics of more complex learning materials. Therefore, educators use various efforts, including facilitating quality-oriented cooperative learning among students. It is crucial to underline that quality collaboration is needed to unite students in quantity through cooperation and to be tested in quality.

(Sears & Reagin, 2013) stated that many studies have found that small groups (collaboration) can be improved through problem-solving performance in the learning process. Several studies that have been conducted show that there is a positive relationship between collaboration skills and problem-solving. The combination of these two abilities is now known as collaborative problem-solving ability (Collaborative Problem-Solving Capacity). It means collaboration with problem-solving. It can be a test of the quality of collaboration skills or a medium of preparation for elementary school students to a higher school level.

According to (Nilakusmawati & Asih, 2012), problem-solving learning models provide opportunities for students to carry out their initiative and analyze the problems faced to obtain solutions. The problem-solving learning model builds students' skills in preparing themselves to work effectively and with quality. It can create dynamic student-learning interactions individually and in collaboration between students in groups.

Problem-solving learning can run well if the teacher can design an activity plan that suits the needs of students, as was done by one of the teachers at SDIU Cahaya Al-Fatih, in Kaduhejo District, Pandeglang Regency. It was done based on the orders and demands of the principal, who warned each teacher not to apply the ancient learning model that focused on the teacher as the primary information provider. However, students had to find learning resources independently to solve a problem. It can be seen from implementing learning that is carried out by

JPSD Vol. 10 No. 1, March, 2024
p-ISSN 2540-9093,
e-ISSN 2503-0558
DOI: http://dx.doi.org/10.30870/jpsd.v10i1.20300

prioritizing the problem-solving model.

B. Research Methodology

This research used a qualitative descriptive type approach to obtain an overview of the implementation of learning using the problem-solving model to develop collaboration skills of 2nd grade Andalusian class students at SDIU Cahaya Al-Fatih. The qualitative approach is a very relevant approach to researching phenomena that occur in a society, especially in an educational environment related to learning topics, because observations are directed at backgrounds and individuals in a holistic manner and view them as part of a whole, not based on variables or hypotheses so that through a qualitative approach to research conducted can obtain more detailed information about conditions, situations, and events that occur. (Moleong, 2018).

This research method is a descriptive method, which collects data using data in the form of words and pictures. The resource persons in the study are 22 people consisting of 1 school principal, 2 2nd grade teachers, and 19 students of the Andalusia class. Data collection techniques used were interviews, field observations, and documentation. The data analysis in this study uses the Miles and Huberman model, as shown in the following chart.:

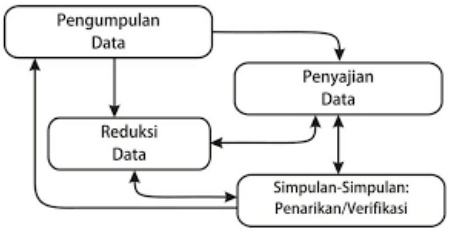

Figure 1. Miles and Huberman Model

C. Research Results and Discussion

Learning planning used as a starting point can initiate efforts to improve the quality of learning. It is possible because, in learning design, the stages that the teacher will carry out in teaching have been well designed, from analyzing learning objectives to carrying out evaluations whose purpose is to measure the achievement

of predetermined learning objectives. It is based on the Law of the Republic of Indonesia number 20 of 2002 concerning the National Education System and Government Regulation (PP) number 19 of 2005, which relates to process standards and indicates that educators are expected to develop lesson plans.

This research prepares the learning implementation plan according to Core Competencies (KI) made for one or more meetings. For each session, the teacher plans a part of the lesson delivery plan that fits into the lesson schedule. A learning implementation plan can be developed at the beginning of each semester or the beginning of the school year, intending that the lesson plan is available beforehand at the beginning of each learning implementation. However, the teacher should also pay attention to the daily development of the learning situation. If the lesson plan is considered unsuitable for the day's class activities, the teacher should update it to ensure its relevance to the evolving learning activities. This way, it can optimally utilize the function of the lesson plans.

(Kunandar, 2014) says that lesson plans are a reference for teachers to carry out teaching and learning activities to be more directed and run effectively and efficiently. It is not impossible if the lesson plans made at the beginning of the semester can conflict with the learning situation in several meetings.

According to Damanhuri (Permatasari et al., 2017), the learning process is effective if students are actively involved in all things, both mentally, physically, and socially, and by 21st century learning marked with Student Center Learning (SCL) with the four skills developed, Communication, Collaboration, Critical Thinking and Problem-Solving, and Creativity and Innovation. To achieve this, teachers play a crucial role in selecting the learning model (Prihatiningsih & Setyaningtyas, 2018). One of the learning models to develop 21st century skills is problem-solving. Implementing problem-solving in learning involves utilizing a learning syntax to stimulate students' skills.

(Ristiasari et al., 2012) states that the learning model problem solving is a learning activity that can create dynamic student learning interactions and better collaboration between students in groups. Model syntax problem solving, according

JPSD Vol. 10 No. 1, March, 2024
p-ISSN 2540-9093,
e-ISSN 2503-0558
DOI: http://dx.doi.org/10.30870/jpsd.v10i1.20300

to (Wartini et al., 2018), is as follows: 1. Problem identification 2. Problem identification 3. Finding solutions 4. Implementing strategy 5. Reviewing and evaluating impact.

Teachers in 2nd grade Andalusia class have implemented problem-solving as a learning model involving the application of concrete problems to train students in solving real-life issues. The researchers observed these learning activities.

Figure 2. Problem-solving model learning activities

When students possess skills in finding solutions or overcoming existing problems, they are expected to gain insights from these problem-solving experiences. These insights can later serve as illustrations for teaching materials. Rahayu's opinion (Kartini, 2022) argued that learning this problem in his learning activities maximizes students' competence adequately and systematically through group work activities.

When students carry out an activity by working in groups, this will encourage students to strengthen, add, test, and develop critical thinking skills by fixing problems in students' real lives. The ultimate goal of learning problem-solving is to get solutions to their problems. Students become willing to approach the issues and discuss them critically and systematically. Students can draw on the understanding they have to conclude together.

Learning activities are inseparable from student activities and are the most crucial part of learning. Learning can be meaningful if students are actively involved in the learning process. Likewise, learning activities that apply the problem-solving model have assessment components based on 21st century skills. One of the goals of the Ministry of Education in establishing the 2013 Curriculum

JPSD Vol. 10 No. 1, March, 2024
p-ISSN 2540-9093,
e-ISSN 2503-0558
DOI: http://dx.doi.org/10.30870/jpsd.v10i1.20300

is to prepare graduates to have 21st century skills. 21st century skills are known as 4C: critical thinking and problem-solving (critical thinking and good at solving problems), communication (communication), creativity and innovation (creativity and innovation), and collaboration (collaboration).

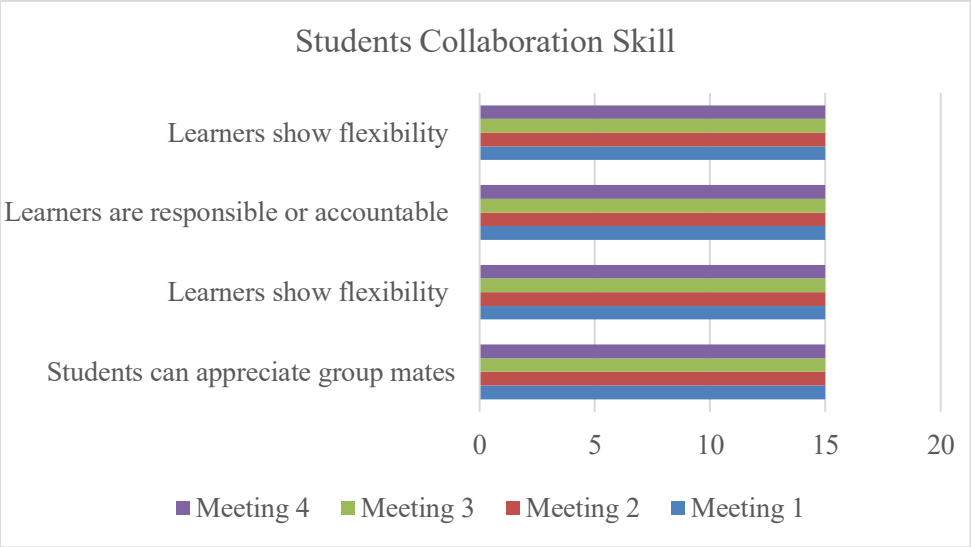

Figure 3. Comparison results of Students' Collaboration Skill

The researcher observed the results obtained by the students in the learning activities for the fourth time; the researcher found that in the core activities, the students were active in answering questions given by the resource person about the content of the fable material and evaluation questions in the learning activities. Apart from being able to answer these questions, students were also seen to be active in group discussions, giving opinions, and excelling in presentations.

Some of the benefits of the model problem solving can be seen directly in students' learning activities. (Trianto, 2019) states that problem-solving can help students develop thinking and problem-solving skills, learn adult roles, and become independent learners. Students can solve problems that serve as the focus of learning through group work to provide diverse learning experiences to students, such as collaboration and interaction in groups, in addition to learning experiences related to problem-solving, such as making hypotheses, designing experiments, conducting investigations, collecting data, interpreting data, driving conclusions, presenting, discussing, and producing reports.

JPSD Vol. 10 No. 1, March, 2024
p-ISSN 2540-9093,
e-ISSN 2503-0558
DOI: http://dx.doi.org/10.30870/jpsd.v10i1.20300

Trinto's statement is also supported by (Amir, 2016), who states that problem-solving has several benefits, including students being able to remember more and increasing their understanding of teaching material, increasing focus on relevant knowledge, being able to encourage students to think, being able to build soft skill, can build learning skills, and can also motivate students to learn.

Group learning activities during the learning process also impact the high level of communication among students. Communication is an essential and inseparable part of human activities as individuals and as social beings. In social relations, communication is a medium for interacting with others, sharing information, and conveying wishes, feelings, thoughts, information, opinions, advice, and experiences to others. No human does not communicate to fulfill his life's needs, either directly face to face or indirectly by using specific media devices, both print and electronic media. It means that communication is the lifeblood and system of human life as social beings.

D. Conclusion

Based on the results of research conducted in general, conclude that learning activities using the problem-solving model, which takes place in 2nd grade Andalusia class at SDIU Cahaya Al-Fatih is intended to provide learning that is obtained from anywhere, not depending on the teacher so that 21st century skills can develop, especially collaboration skills. In solving problems, students must be able to find their solutions with their colleagues in the group. Therefore, teachers must be able to motivate students to develop collaboration skills through problem-solving models. In applying this learning, the teacher plans by preparing a lesson plan and carrying out learning following the previously scheduled plans. The expectation for this research is to provide various benefits. It contributes to the body of knowledge, especially in the field of learning strategies, in which learning strategies are one of the readiness for educators to improve the quality of education, especially in the 21st century as one of the doors for developing the 4C skills of their students and provide a favorable provision for the future. Furthermore, this research

aims to improve learning at SDIU Cahaya Al-Fatih, particularly in the 2nd grade of the elementary school learning process. This research will benefit students, teachers, schools, and researchers.

References

Amir. M. T. (2016) *Inovasi Pendidikan Melalui Problem Based Learning.* Jakarta: Prenada Media.

Permatasari, N. E. (2017). Peningkatan Hasil Belajar IPA Siswa Kelas 5 SD Menggunakan Model Pembelajaran Kooperatif Tipe TGT Berbantuan Medua Gambar. Jurnal JPSD, 3 (2), 96-104.

Sears, D., & Reagin, J. (2013). Individual versus Collaborative Problem Solving: Divergent Outcomes Depending on Task Complexity. *Instructional Science: An International Journal of the Learning Science.* 4 (1), 1153-1172.

Kartini, D., Nurohmah, A. N., & Prihantini. (2022). Relevansi Strategi Pembelajaran Problem Based Learning (PBL) dengan Keterampilan Abad 21. *Jurnal Pendidikan Tambusai*. 6 (2), 9092-9099.

Kunandar. (2014). *Guru profesional implementasi kurikulum tingkat satuan pendidikan (KTSP) dan sukses dalam sertifikasi guru:* Jakarta: Rajawali Pers.

Moleong, L. J. (2018). *Metodologi Penelitian Kualitatif: Vol. XIV* (38th ed.). Jakarta: PT Remaja Rosdakarya.

Nilakusmawati, D. P. E., & Asih, N. M. (2012). Kajian Teoritis Beberapa Model Pembelajaran. *Kajian Teoritis Beberapa Model Pembelajaran*, 1222.

Prihatiningsih, E., & Setyaningtyas, E.W. (2018). Pengaruh Penerapan Model Pembelajaran Picture and Picture dan Model Make a Match Terhadap Hasil Belajar Siswa. *Jurnal JPSD, 4*(1), 15-29.

Rahmawati, A., Fadiawati, N., Diawati. (2019). Analisis Keterampilan Berkolaborasi Siswa SMA pada Pembelajaran Berbasis Proyek Daur Ulang Minyak Jelantah. *Jurnal Pendidikan dan Pembelajaran Kimia*, *8*(2).

Ristiasari, T., Priyono, B., Sukaesih, S., & Biologi, J. (2012). MODEL PEMBELAJARAN PROBLEM SOLVING DENGAN MIND MAPPING TERHADAP KEMAMPUAN BERPIKIR KRITIS SISWA. *Journal of Biology Education, 1*(3), 50229. http://journal.unnes.ac.id/sju/index.php/ujeb

Subarkah, M. A. (2019). Pengaruh Gadget Terhadap Perkembangan Anak. *Jurnal Rausyan Fikr*, 15 (1), 125-144.

Takaria, J., & Talakua, M. (2018). Efektivitas Model Collaborative Problem Solving (Cps) Dalam Meningkatkan Kemampuan Representasi Matematis Mahasiswa Calon Guru Sekolah Dasar. *Jurnal JPSD, 4*(2), 190-203.

Trianto. (2019). *Mendesain Model Pembelajaran Inovatif-Progresif.* Jakarta: Kencana Prenada Media Group.

Wartini, I., Mangkuwibawa, H., & Anwar, C. (2018). Penerapan Metode Problem Solving Untuk Meningkatkan Pemahaman Matematika. *Al-Aulad: Journal of Islamic Primary Education*, *1*(2), 1–9. https://doi.org/10.15575/al-aulad.v1i2.3519

Shofiyah, N., et al. (2022) Collaboration Skills: Its Relationship with Cognitive Learning Outcomes in STEM Learning. *Procedings of Sciences and Humanities,* Universitas Muhammadiyah Sidoarjo: 1 Juni 2022. 1231-1236.

Shoimin, A. (2020). 68 *Model Pembelajaran Inovatif falam Kurikulum 2013. Yogyakarta*. Arr-Ruzz Media.

Sijabat, A. (2020). *Model Pembelajaran Problem Solving dalam Pendidikan Fisika.* Lombok: FP. Aswaja.

Sopian, A. (2016). Tugas, Peran dan Fungsi Guru dalam Pendidikan. *Jurnal Tarbiyah Islamiyah,* 1 (1), 88-97.

Sudjana, N. (2010). *Dasar-dasar Proses Belajar Mengajar.* Bandung: Sinar Baru Algesindo.

Sugiyono. (2014). *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D.* Bandung: Alfabeta.

Sunbanu, H.F., Mawardi, M., & Wardani, K. W. (2019) Peningkatan Keterampilan Kolaborasi Siswa Menggunakan Model Pembelajaran Kooperatif Two Stay Twostray di Sekolah Dasar. *Jurnal Basicedu Research & Learning in Elementary Education,* 3 (4), 2037-2041.