COLLABORATION AND COMMUNICATION SKILLS OF ELEMENTARY SCHOOL STUDENTS' IN INDONESIAN LANGUAGE LEARNING THROUGH RADEC

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Abstract

Collaboration and communication skills were essential as basic skills in the 21st century. This research described the forms of students' collaboration skills in terms of the teamwork aspect, and the forms of students' communication skills in terms of the verbal communication aspect, that emerge in Indonesian Language learning through RADEC. A qualitative approach with a case study type was applied in this study. The subjects were 3rd-grade students in one of the elementary schools in Bandung city. Data collection was carried out through observation, field notes, and interviews. Data was analyzed through data collection, data reduction, and conclusion. The results of this study show that 1) the form of student collaboration skills are through contributing to completing group assignments, help each other when having difficulties, appreciating the work of their friend in the group, and exchanging ideas and opinions, and 2) the form of student communication skills are being able to present the results of group discussions, being active argue and asking a question, using an appropriate language, respect each other's opinions, brave and confident when speaking in front of the class. Collaboration in the discussion stage has yet to be visible; the reasons are that the students have yet to conclude the different opinions or answers even though the essence is the same, one person still dominates the discussion, and some students need to work on pre-learning questions. This research implied that Indonesian Language learning need to be designed to actively involved students to develop collaboration and communication skills by integrating innovative learning model such as RADEC.

Keywords: Collaboration Skills; Communication Skills; Elementary School Students; Indonesian Language Learning; RADEC

Abstrak

Keterampilan kolaborasi dan komunikasi merupakan hal yang penting sebagai keterampilan dasar pada abad 21. Tujuan penelitian ini yakni mendeskripsikan bentuk keterampilan kolaborasi yang ditinjau dari aspek kerja sama tim, dan bentuk keterampilan komunikasi ditinjau dari aspek komunikasi verbal, yang muncul dalam pembelajaran Bahasa Indonesia melalui RADEC. Pendekatan kualitatif dengan jenis studi kasus digunakan dalam penelitian ini. Subyek dalam penelitian yakni siswa kelas III di salah satu diantara banyak sekolah dasar Kota Bandung. Pengumpulan data dilakukan melalui observasi, catatan lapangan, dan wawancara. Data dianalisis melalui pengumpulan data, reduksi data, serta penarikan kesimpulan. Hasil penelitian ini menunjukkan bahwa 1) bentuk keterampilan kolaborasi siswa yakni berkontribusi dalam menyelesaikan tugas kelompok, saling membantu ketika mengalami kesulitan, menghargai hasil karya temannya dalam kelompok, serta saling bertukar pikiran dan pendapat, dan 2) bentuk keterampilan komunikasi siswa adalah mampu mempresentasikan hasil diskusi kelompok, aktif berpendapat dan bertanya, menggunakan bahasa yang sesuai, saling menghargai pendapat, dan berani serta percaya diri ketika berbicara di depan kelas. Kolaborasi dalam tahap discuss belum nampak, penyebabnya adalah siswa belum mampu menyimpulkan perbedaan pendapat atau jawaban meskipun intinya sama, diskusi masih didominasi oleh satu orang, dan terdapat beberapa siswa yang tidak mengerjakan pertanyaan prapembelajaran. Penelitian ini berimplikasi bahwa pembelajaran Bahasa Indonesia perlu dirancang untuk melbatkan siswa aktif dalam mengembangkan keterampilan kolaborasi dan komunikasi siswa dengan mengintegrasikan model pembelajaran inovatif seperti RADEC.

Kata Kunci: Keterampilan Kolaborasi; Keterampilan Komunikasi; Siswa Sekolah Dasar; Pembelajaran Bahasa Indonesia; RADEC



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Introduction

The Industrial Revolution 4.0 marked the start of the 21st century, that makes faster developments in communication, information, technology, economy, transportation, and so on (Redhana, 2019). The changes of life in this century challenge for every human being. Indonesia has started the Industrial Revolution 4.0, which expects ease and speed in working with satisfactory results. therefore, various fields of work require people with good qualities in their work and results (Mardhiyah et al., 2021). The evolution of the era needs to be balanced with the progress of human quality. Therefore, humans need to have the basic skills of the 21st century known as the 6Cs skills, which include character, citizenship, critical thinking, creativity, collaboration, and communication.

Collaboration skills are a person's ability to work together to complete work to achieve a goal (Sunbanu et al., 2019). Another opinion states that collaboration is work together to solve problems so that goals can be achieved (Mardhiyah et al., 2021). From these two definitions, collaboration is problem-solving and work with other people to complete specific tasks. From the definitions, in collaboration, there is a thinking process to find a solution to solve a problem and act to realize the solution or do the work. Kereulik stated that collaboration skills play an important role in individuals, such as flexibility, the desire to contribute to the group, respect for the group, and individual efforts and success (Muiz et al., 2016).

An important element of collaboration is communication. With communication, collaboration will run well. The learning process must be connected to communication activities. Communication is a student's capability to express their observations, learning outcomes, and knowledge gained between students or teachers, orally or in writing (Dewi et al., 2020). In line with this opinion, another opinion states that communication is the giving information, dialogue, and the process of exchanging ideas between one another (Budiono & Abdurrohim, 2020). Communication skills include expressing ideas, opinions, and orders clearly and persuasively through speaking and writing skills (Zubaidah, 2016).

It can be concluded that communication is the delivery of information between the sender of the message and the recipient of the message through oral or written narrative. Teaching and learning activities carried out in class are a communication process. In learning activity, the informations are discussion results, leaning results, results form observing, and knowledge that students have, which is delivered between friends and the teacher. Communication is also the key to achieving educational goals. If the learning process isn't built in a communicative atmosphere, there isn't exchange of knowledge and information, so only one-way communication occurs, namely the transfer of knowledge from teacher to student.

Education is part of life in 21st century, so the learning process must be adapted to needs (Fikri et al., 2021). Collaboration and communication skills are two essential skills expected to be developed in the learning process. Collaboration and communication skills are interrelated skills; to be able to work with a team, someone needs to have good communication skills too. Students need these two skills, considering that currently, many jobs require working in groups. This opinion is in line with the opinion that students can work together with other people who have various personalities to anticipate the global competition that will be faces in the future (Muiz et al., 2016).

Students can learn and developed collaboration and communication skills in various ways, but a good way is by directly experiencing the process of communication and

collaboration with other people (Ulhusna et al., 2020). Student collaboration and communication skills could be applied to every subject, including Indonesian. In the 2013 curriculum, the aims of Indonesian Language lesson include four competencies, namely 1) spiritual attitude competency, 2) social attitude, 3) knowledge, and 4) skills (Menteri Pendidikan dan Kebudayaan Republik Indonesia, 2018). Indonesian language was one of the subjects that relevant for developing collaboration and communication skills. Indonesian language learning activities in elementary school needed to involve students in actively applying communication and teamwork skills. Collaborative learning had advantages, such as strengthening students' sense of responsibility, training them in task distribution, and integrating information from various sources of knowledge (Islamiati et al., 2023). Information exchange occurred through the communication process. With collaboration and communication skills, students whoo had a better understanding could help students who still needed guidance, known as peer tutoring. This method was effective for increasing student understanding and supporting academic achievement. This opinion was supported by research showing that collaboration skills could improve student learning achievement, and research proving a significant relationship between communication skills and student learning achievement (Anggreni, 2019; Ningrum & Putri, 2021).

Learning needs to be designed according to the 21st-century era. 21st-century education aims to guide students to develop skills holistically (Prachagool & Nuangchalerm, 2021). 21st-century learning encourages students to learn through experience (Hartina et al., 2022). Students need to get used to communicating with each other in class, learning with fellow, friends, or with teaching (Septikasari & Frasandy, 2018). In order to develop students' collaboration and communication skills, teachers need to create situations that encourage students to experience this process of collaboration and communication. Learning activities could be emphasize group work, collaborative projects, and encourage active class discussions by involving students. Teachers need to make a change in teaching, one of them is determining learning models (Mia Komariah et al., 2023).

The RADEC learning model is a learning model that can be chosen to facilitate collaboration and communication activities in classroom learning. The syntax of this learning model consists of the stage; Read, Answer, Discuss, Explain, and Create. In the Read stage, students look for information from various sources guided by pre-learning questions according to their knowledge at reading stage. The reading and answering stages are carried out before the learning meeting in class. In the discussion stage, students discuss the answers to pre-learning questions with their teammates. In the explain stage, students express the results of exchanging ideas with their team in front of the class. The final stage is created; as this stage, students learn to formulate new ideas according to their creativity; these ideas can be in the form of work, problem-solving, or productive questions. The advantages of the RADEC learning model for students include developing oral and written communication skills and habituating the ability to collaborate in groups (Sopandi et al., 2021). Collaboration and communication are implemented in the entire syntax of the RADEC learning model.

In the learning context, elementary school students find it challenging to communicate, need more courage, and need more confidence in arguing, giving opinions, making suggestions, and answering teacher questions (Fitriah et al., 2020). On the other hand, collaboration skills have yet to emerge in students. For example, in group learning activites, tasks are only completed by one or two students, while other members use their time to chat and need help understanding the tasks that must be completed (Ulhusna et al., 2020).

Several studies related to students' communication and collaboration skills were the study with the tittle "Improving Student Communication Skills Through Implementing the Everyone Is A Teacher Here Method" by Fitriah et al. (2020). This study found that 1) in cycle I, teacher activity reached 80%, classified as success criteria, while in cycle II reached 94.5%, classified as very success criteria; 2) in cycle I, student activity reached 86.5% classified as very success criteria; and 3) communication skills in cycle II reached 50%, classified as complete category, while communication skills in cycle II reached 83.33% classified as complete category because they have exceeded the classical completeness value by more than 80%.

Apart from that, another study with the title "The Impact of Problem Based Learning on Improving Collaboration Skills in Thematic Learning" by Hartina et al. (2022). This research found that student collaboration in cycle I and cycle II experienced an average increase of 5.45 points. In cycle I, the average collaboration between students was 78.38, and in cycle II, it increased to 83.83. Student collaboration skills could be improved with the PBL model. This research had implications for enhancing collaboration skills through learning design using PBL.

Other study, namely "The Emergence of Elementary Students' Character Aspects through RADEC Learning Using WhatsApp in Water Cycle Material" (Sukmawati et al., 2021). This research found that at the reading stage, the visible characters were religious, nationalist, independent, and integrity. At the answer stage, the visible characters were religious, independent, cooperative, and integrity. At the discuss and explain stage, the visible characters were religious, nationalist, independent, cooperative, and integrity. At the create stage, the characters that emerged were religious, nationalist, independent, and cooperative.

Previous research discusses how students' collaboration and communication skills can be improved through learning with certain methods. Besides that, previous research also analyzed the aspects of character that emerged in learning using RADEC. However, previous research hasn't explained the form or activities of student collaboration and communication that occur during learning. Therefore, this research will identify student forms and activities that indicate the collaboration and communication skills that occur during learning using the RADEC model.

The analysis of the importance of collaboration and communication skills to be developed in students and problems regarding communication and collaboration skills that occur inspired researchers to conduct research entitled "Collaboration and Communication Skills of Elementary School Students in Indonesian Language Learning Through RADEC". This research aims to 1) described the forms of students' collaboration skills in terms of the teamwork aspect that emerge in Indonesian Language learning through RADEC, and 2) describe the forms of students' communication skills in terms of the verbal communication aspect that emerge in Indonesian Language learning through RADEC.

Research Method

The approach applied in this research is a qualitative approach with a case study type. A case study is research investigating activities, processes, programs, groups of individuals, and an incident (Fitrah & Luthfiyah, 2017). The considerations in determining the research method were to answer the research questions, namely 1) what kinds of forms of students' collaboration skills emerge in Indonesian Language learning through RADEC in terms of teamwork aspects? and 2) what kinds of forms of students' communication skills emerge in Indonesian Language learning through RADEC in terms of verbal communication aspects?

Also, for achieved the research purpose, namely described the forms of students' collaboration skills in terms of the teamwork aspect and the forms of students' communication skills in terms of the verbal communication that emerge in Indonesian Language learning through RADEC.

The subjects of this research were the third-grade students at an elementary school in Bandung City, a total of 22 students, divided into 14 male and eight female students. The subject of this research was chosen because based on preliminary research, it was found that students had the requirements to implement the RADEC model. Based on interviewed with the teacher, 3rd-grade students had completed the basic level in reading. Regarding the students' background, most of the students came from middle-class families. The results of interviews with teachers showed that students were enthusiastic about trying new things in learning. The RADEC learning model had never been implemented in learning, so it was a new experience for students. In the process of understanding learning material, students were divided into good, sufficient, and need attention. Students' abilities related to collaboration and communication such as students were able to lead groups, giving responses, and some students were able to do presentations in front of the class. Students were divided into six groups with each group consisting of four to five students.

The primary data was obtained from observation activities and field notes, while interviews were used to obtain additional information. The observations carried out are participant observations, so the researcher participates in the activities carried out by the participants (Masrukhin, 2014). Observations and field notes are used to observe students' collaboration and communication skills in Indonesian Language learning activites. The data collection was analyzed and processed using the Miles and Hubberman technique, which includes the stages of data collection, data reduction, and conclusion (Amruddin et al., 2022). The validity of the data was tested by triangulating sources, namely observation, field notes, and interviews. Researchers conducted a literature review on relevant topics to complete the research data.

Results and Discussion

3.

Create

RADEC is a learning model whose syntax includes Read, Answer, Discuss, Explain, and Create. The implementation of the stages in Indonesian Language learning is describe as follows.

No. **Skills** Finding Stage Each group try to complete the student worksheet using their own ways. One group divided task for 1. Discuss Collaboration answering the question, while the other five groups only copied their friends' answer. Students are courage and confident when presenting in front of the class Being able to present the results of group discussions Actively having opinions and asking questions 2. Explain Communication Using an appropriate language Respecting each other's opinions Most students read aloud

miniature telephone

Collaboration

Each group agrees on creative ideas.

Each member of the group contributes to make a

Help each other when they having difficulties

Table 1. The Form of Collaboration and Communication Skill of the 3rd-grade

Appreciating the work of the group members

At Read stage, the material to be studied at school is read first by students at home. Students explore information before studying at school. Students are given directions to access the teaching materials they must study. Students are also given pre-learning questions so their search for information in line with the material they sould study. These pre-learning questions are given one day before learning begins.

The material they learned focused on main sentences and main ideas. Therefore, pre-learning questions were designed to prompt students to seek information about main sentences and main ideas. Students also practiced identifying main sentences and main ideas in texts related to information technology. Through reading activities, students will know when learning in class later. The forward stage is answer stage. After reading the material, students write their knowledge by answering pre-learning questions. Answering the pre-learning questions was also done one day before the learning started, and it was explained how to answer it. It was found that most of the students had done the pre-learning questions. However, it was also found that students didn't complete their work because they needed help to understanding the questions and needed help to complete the work.

At discuss stage, students discuss the answer from pre-learning questions with their teammates. After that, each group must write down the discussion result in the student worksheet. Teacher monitors the progress of the group discussion. Based on the results of observation of the form of discussion in group one is each member want to contribute by give the answer to write in student worksheet. The group then divided tasks, such as answering discussion questions number 1 and number 2 using the answer from student A, answering discussion questions number 3 and number 4 using the answer from student B, and so on. This kind of discussion is also a form of collaboration that produces agreement in the group but doesn't exchange ideas and opinions verbally. The form of collaboration in group 1 was that each member contributed to complete on the group assignments. The form of discussion in group 2 is the group use answers from one or two group members. Then, the answers are dictated to other group members to be rewritten in their own worksheet. This form of discussion was also found in other groups, namely groups 3, 4, 5, and 6. These groups didn't exchange ideas and opinions but instead imitated answers from other group members. The form of collaboration namely contributing to complete group assignments, helping each other if they having difficulties, appreciating the work of their group members, and exchanging ideas and opinions, could be more optimal at the discussion stage. In this activity, the teacher doesn't explain the material to students.

At Explain activity, the results of the discussions from each group is presented by the students in front of the class. Each group members are ready to come forward to read the discussion questions and answers with courage and confidence. The language they used is following the rules of Indonesian use. Students looks enthusiastic when waiting for their turn to come forward. While the other group explain, the group that isn't presenting are listening and responding. From presentation activities, students look confidence to show up in front of the class. The forms of communication that appear at this activity are being able to present the results of group discussions, actively having opinions and asking questions, using an appropriate language, and respecting each other's opinions. Even though not all students gave their opinions during the explain activity, most of them are brave enough to express their opinions. In addition, most students read aloud so that other students can hear the information delivered by the group presenting. The teacher has the role of moderating this activity, namely to determine the group that will present, stimulate students to express their

opinions, and provide feedback and reinforcement of students' opinions. At this stage, the teacher doesn't explain the material to students.

At create stage, students agree and reliaze creative ideas with their group members. All groups make miniature telephones using a cans. The selection of the creation is the results of agreement between each group. Each group members have a different idea to make their creation, but in the end, they have agreed to make a miniature telephone. The reason is the miniature telephone is easy to make and the tools are easy to find. During its implementation, each member contributes to make a miniature telephone; some work on the group's student worksheet, some decorate cans, and some put yarn on cans. Students help each other and appreciate the work of their teammates. There are groups whose tools and materials are incomplete, so that groups ask other groups for the missing tools. In this activity, students' collaboration skills are visible because each member take part in making a miniature telephone. The teacher's role is monitoring the progress of the creation stage.

Collaboration and communication skills are observed when learning activities take place. This research finds that at the discuss stage, the form of collaboration is that each group try to complete the worksheet using the method and contribution of their group members. However, this form of collaboration has yet to work as expected, namely helping each other when having difficulties, appreciating the work of their group member, and exchanging ideas and opinions. This is different with previous research which found that at the discuss stage, students discuss to reach an agreement with all group members (Sukmawati et al., 2021). However, the findings of this research are similar with the research by Hartina et al. (2022) that group discussions have not divided tasks well. The reasons are the students have yet to conclude the different opinions of answers even though the essence is the same, discussions activities are also dominated by one of the group members. Discussions in small groups is just transfer one member's answer to be imitated by other members. Another cause is that some students still need to answer the pre-learning questions, so these students are passive when discussing. Pre-learning questions are given by the teacher as a stimulus for students to find out the material before the lesson, so students can explain the material they have obtained through read and answer stage (Yulianti et al., 2022). The research finding is different with the opinion that collaboration is work together to solve problems, so that goals can be achieved (Mardhiyah et al., 2021). From the information, classroom learning activity rarely to involve students to have discussion, so discussions don't happen because the students weren't use to it. One of the inhibitory factor in implementing the RADEC model is that students are used to listening to explanations, asking if there is material they don't understand, doing exercises, and studying during exams (Sopandi et al., 2021).

The forms of student collaboration skills in the creation stage that appear are contributing to complete group assignments, helping each other when they having difficulties, appreciating the work of group members, and exchanging ideas and opinions. Each student takes a part in making a miniature telephone; for example, some students work on group worksheet, some students decorate the cans, and some students attach yarn to cans. It can be seen that each group members contribute to complete the assignment. This research has similarities with previous research that student shows their desire to contribute in creating projects through a deliberation process (Sukmawati et al., 2021). There are group that need more complete tools and material, so other groups helped by giving the tools to the group that needs the tools. Helping each other is not only done between group members but also between another groups. No students are blaming each other or being dissatisfied with the work of their group members. Students respect each other and complement the work of their group members

without changing the results of their friends' work. Exchanging ideas and opinions can be seen when students agree on creative ideas that will be created by the group. In one group, students have different ideas: some students want to make poster, some students want to make video, and some students want to make miniature telephones. However, after discussing with the group, they agree that the work to be created would be a miniature telephone. From here, students learn to accept agreed group decisions. Student collaboration skills in create stage reflects Kereulik's opinion that is collaboration skills play an important role in individuals, such as flexibility, the desire to contribute to the group, respect for the group, and individual efforts and success (Muiz et al., 2016). One of the characteristic of elementary school students is they like to move (Hayati, 2021). The results show that students prefer to work together in activities that make them move and be creative. The RADEC learning model which implemented continuously will make students adapt to learning activities, so that students will get used to collaborative activities. In line with the opinion that the advantage of implementing this model in learning is that it can train students' collaboration skills in groups (Sopandi et al., 2021).

Student communication skills in Indonesian Language learning through RADEC are students can explain the result of discussion about main sentences and main ideas in front of the class. Students' self-confidence is also show up. This finding contrasts with the statement from the teacher classroom, who said that students find it challenging to speak in front of the class due to a lack of self-confidence. At this stage, most students can express their opinions in language that is polite, courteous, and easy to understand. In this learning, the forms of communication that show up from students include being able to present the result of group discussions, actively having opinions and asking questions, using an appropriate language, and respecting each other's opinions. Students also show courage and confidence to speak in front of the class. These findings are similar with the previous research which found that students show courage in expressing opinions and responding to others (Sukmawati et al., 2021). In line with the opinion that communication is students' capability to express their observations, learning outcomes, and knowledge gained between students or teachers, orally or in writing (Dewi et al., 2020). The explain stage in RADEC trains students to have the ability to think communicatively, so students can communicate the results of the discussion with their team that was carried out in previous acitivites (Sukardi et al., 2021). In line with this research, that the implication of implementing the RADEC model is that learning encourages students to be more active and develop 21st-century skills, one of them is the ability to explain (Handayani et al., 2019).

The relationship between collaboration and communication skills with Indonesia Language learning is in the 2013 curriculum, Indonesian language learning emphasizes text-based learning. The reasons are texts can develop students' thinking abilities and relevant with the characteristics of the 2013 curriculum, which emphasizes achieving three domains of competencies: knowledge, skills, and attitudes (Mahsun, 2014). Collaboration and communication skills play a role in improving the quality of the learning process. By collaborating, students can discuss and exchange ideas to understand material or texts. Collaboration also allows students to practice thinking skills and work together to complete tasks. Collaborative learning will make students participate more actively and can make students more interested in learning (Mawaddah et al., 2022). Meanwhile, communication is an activity that involves informing students' ideas and understanding. Good communication skills enable students to convey their ideas clearly and easily respect other people's opinions. Indonesian language learning that combines collaboration and communication can strengthen

social and cognitive skills, increase student self-confidence, and stimulate students to be active in learning. This research implies that Indonesia language learning needs to be designed to actively involve students in developing their collaboration and communication skills by integrating innovative learning models such as RADEC.

Conclusion

This research aims to describe the collaboration skills of elementary school students in Indonesian Language learning through RADEC and the communication skills of elementary school students' in Indonesian Language learning through RADEC. Based on the results of data analysis, the form of collaboration skills of elementary school students' are contribute to complete group assignment, help each other, appreciate the work of the group members, and exchange ideas and opinions. Collaboration skills show up at the discuss and create stage. However, at discuss stage the discussions didn't implemented well because of the several factors, such as student can't conclude the differences sentence in the answer even though the essence is same, the discussion is dominated by one person, and some students didn't do prelearning questions. Students' communication skills show up at explain stage. At this stage, the form of communication skills of elementary school students' are students can present the results of group discussions in front of the class, actively argue and ask questions, use appropriate language, and respect each other's opinions. Students also show courage and confidence to speak in front of the class. This research found that the student discussion process istn't running well. The suggestion from this research is that learning should be designed more often to facilitate students to discuss. Teachers can design learning activity using models that facilitate students to discuss, one of them is the RADEC model. This research was only conducted at several meetings and involved one class. Therefor, this research has limited tie and research subjects. In addition, this research only examines two of the four 21st-century skills, namely collaboration and communication. Therefore, it's recommended that further research be conducted over a longer period of time and involving more subjects from lower and higher grades. This aims to enrich research findings. For future research, we can examine other sudents' 21st-century skill such as critical thinking and creative thinking.

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References

Amruddin, Priyanda, R., Agustina, T. S., Ariantini, N. S., Rusmayani, N. G. A. Li., Aslindar, D. A., Ningsih, K. P., Wulandari, S., Putranto, P., Yuniati, I., Untari, I., Mujiani, S., & Wicaksono, D. (2022). *Metodologi Penelitian Kuantitatif dan Kualitatif*. Media Sains Indonesia.

Anggreni, N. L. O. (2019). Prestasi Belajar Bahasa Indonesia Siswa Sekolah Dasar Dapat ditingkatkan melalui Optimalisasi Penerapan Metode Diskusi Kelompok Kecil (Small

- Group Discussion). *Jurnal Ilmiah Pendidikan Dan Pembelajaran*, *3*(2), Article 2. https://doi.org/10.23887/jipp.v3i2.19396
- Budiono, H., & Abdurrohim, M. (2020). Peran Guru Dalam Mengembangkan Keterampilan Komunikasi (Communication) Siswa Kelas V Sekolah Dasar Negeri Teratai. *Jurnal IKA PGSD (Ikatan Alumni PGSD) UNARS*, 8(1), Article 1. https://doi.org/10.36841/pgsdunars.v8i1.589
- Dewi, S. S., Uswatun, D. A., & Sutisnawati, A. (2020). Penerapan model inside outside circle untuk meningkatkan keterampilan komunikasi siswa dalam pembelajaran IPA di kelas tinggi. *Utile: Jurnal Kependidikan*, 6(1), 86–91. https://doi.org/10.37150/jut.v6i1.720
- Fikri, A. A., Nurona, A., Saadah, L., Nailufa, L. E., & Ismah, V. (2021). Keterampilan Guru Dalam Membimbing Diskusi Pada Pembelajaran Abad 2. 2(1).
- Fitrah, & Luthfiyah. (2017). Metodologi Penelitian: Penelitian Kualitatif, Tindakan Kelas & Studi Kasus. CV Jejak.
- Fitriah, P. I., Yulianto, B., & Asmarani, R. (2020). Meningkatkan Keterampilan Komunikasi Siswa Melalui Penerapan Metode Everyone Is A Teacher Here. *Journal of Education Action Research*, 4(4), 546. https://doi.org/10.23887/jear.v4i4.28925
- Handayani, H., Sopandi, W., Syaodih, E., Setiawan, D., & Suhendra, I. (2019). Dampak Perlakuan Model Pembelajaran Radec Bagi Calon Guru Terhadap Kemampuan Merencanakan Pembelajaran Di Sekolah Dasar. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 4(1), Article 1. https://doi.org/10.23969/jp.v4i1.1857
- Hartina, A. W., Wahyudi, & Permana, I. (2022). Dampak Problem Based Learning Untuk Meningkatkan Keterampilan Kolaborasi dalam Pembelajaran Tematik. *Journal of Education Action Research*, 6(3), Article 3. https://doi.org/10.23887/jear.v6i3.49828
- Hayati, F. (2021). Karakteristik Perkembangan Siswa Sekolah Dasar: Sebuah Kajian Literatur. 5.
- Islamiati, S. A., Zulfiati, H. M., & Wijayanti, L. (2023). Project Based Learning Berbasis Ajaran Tamansiswa Untuk Meningkatkan Keterampilan Kolaborasi Siswa Kelas III Sekolah Dasar. *Prosiding Seminar Nasional Pendidikan Profesi Guru*, 2(1), Article 1.
- Mahsun. (2014). Pembelajaran Bahasa Indonesia Berbasis Teks. Rajagrafindo Persada.
- Mardhiyah, R. H., Aldriani, S. N. F., Chitta, F., & Zulfikar, M. R. (2021). Pentingnya Keterampilan Belajar di Abad 21 sebagai Tuntutan dalam Pengembangan Sumber Daya Manusia. *Lectura: Jurnal Pendidikan*, *12*(1), Article 1. https://doi.org/10.31849/lectura.v12i1.5813
- Masrukhin. (2014). Metodologi Penelitian Kualitatif. Media Ilmu.
- Mawaddah, R., Triwoelandari, R., & Irfani, F. (2022). Kelayakan Lks Pembelajaran Ipa Berbasis Stem Untuk Meningkatkan Keterampilan Kolaborasi Siswa Sd/Mi. *Jurnal Cakrawala Pendas*, 8(1), Article 1. https://doi.org/10.31949/jcp.v8i1.3338
- Menteri Pendidikan dan Kebudayaan Republik Indonesia. (2018). Peraturan Menteri Pendidikan Dan Kebudayaan Republik Indonesia Nomor 37 Tahun 2018 Tentang Perubahan Atas Peraturan Menteri Pendidikan Dan Kebudayaan Nomor 24 Tahun 2016 Tentang Kompetensi

- Inti Dan Kompetensi Dasar Pelajaran Pada Kurikulum 2013 Pada Pendidikan Dasar Dan Pendidikan Menengah.
- Mia Komariah, Udin Syaefudin Sa'ud, Wahyu Sopandi, & Atep Sujana. (2023). Model Pembelajaran Radec: Persepsi Dan Implementasi Pada Calon Guru Sekolah Dasar. *Perspektif Ilmu Pendidikan*, *37*(1), 45–52. https://doi.org/10.21009/PIP.371.6
- Muiz, A., Wilujeng, I., Jumadi, J., & Senam, S. (2016). Implementasi Model Susan Loucks-Horsley Terhadap Communication And Collaboration Peserta Didik Smp. *Unnes Science Education Journal*, 5(1), Article 1. https://doi.org/10.15294/usej.v5i1.9565
- Ningrum, A. R., & Putri, N. K. (2021). Hubungan Antara Keterampilan Berkomunikasi dengan Hasil Belajar IPS pada Peserta Didik Kelas V SD. *Terampil: Jurnal Pendidikan dan Pembelajaran Dasar*, 7(2), Article 2. https://doi.org/10.24042/terampil.v7i2.6410
- Prachagool, V., & Nuangchalerm, P. (2021). Perspectives of Thai Educators toward 21st Century Instruction. *Journal of Education and Learning (EduLearn)*, 15(3), 432–437.
- Redhana, I. W. (2019). Mengembangkan Keterampilan Abad Ke-21 Dalam Pembelajaran Kimia. *Jurnal Inovasi Pendidikan Kimia*, *13*(1), Article 1. https://doi.org/10.15294/jipk.v13i1.17824
- Septikasari, R., & Frasandy, R. N. (2018). Keterampilan 4c Abad 21 Dalam Pembelajaran Pendidikan Dasar. *Tarbiyah Al-Awlad: Jurnal Kependidikan Islam Tingkat Dasar*, 8(2), Article 2. https://doi.org/10.15548/alawlad.v8i2.1597
- Sopandi, W., Sujana, A., Sukardi, R. R., Sutinah, C., Yanuar, Y., Imran, Muh. E., Suhendra, I., Dwiyani, S. S., Sriwulan, W., Nugraha, T., Sumirat, F., Nurhayati, Y., Kusumastuti, F. A., Lestari, H., Yuniasih, N., Nugraheny, D. C., & Suratmi. (2021). *Model Pembelajaran RADEC Teori dan Implementasi di Sekolah*. UPI Press.
- Sukardi, R. R., Sopandi, W., & Riandi, R. (2021). Repackaging RADEC learning model into the online mode in science class. *Journal of Physics: Conference Series*, 1806(1), 012142. https://doi.org/10.1088/1742-6596/1806/1/012142
- Sukmawati, D., Sopandi, W., Sujana, A., & Muharam, A. (2021). Kemunculan Aspek Karakter Siswa SD melalui Pembelajaran RADEC dengan Menggunakan WhatsApp pada Materi Siklus Air. *Jurnal Basicedu*, *5*(4), Article 4. https://doi.org/10.31004/basicedu.v5i4.993
- Sunbanu, H. F., Mawardi, M., & Wardani, K. W. (2019). Peningkatan Keterampilan Kolaborasi Siswa Menggunakan Model Pembelajaran Kooperatif Two Stay Two Stray Di Sekolah Dasar. *Jurnal Basicedu*, *3*(4), Article 4. https://doi.org/10.31004/basicedu.v3i4.260
- Ulhusna, M., Putri, S. D., & Zakirman, Z. (2020). Permainan Ludo untuk Meningkatkan Keterampilan Kolaborasi Siswa dalam Pembelajaran Matematika. *International Journal of Elementary Education*, 4(2), 130. https://doi.org/10.23887/ijee.v4i2.23050
- Yulianti, Y., Lestari, H., & Rahmawati, I. (2022). Penerapan Model Pembelajaran Radec Terhadap Peningkatan Kemampuan Berpikir Kritis Siswa. *Jurnal Cakrawala Pendas*, 8(1), Article 1. https://doi.org/10.31949/jcp.v8i1.1915

Zubaidah, S. (2016). *Keterampilan Abad Ke-21: Keterampilan Yang Diajarkan Melalui Pembelajaran*. https://www.researchgate.net/publication/318013627