Analysis of Communication Skill 5th-Grade Students on Fire Materials Through RADEC Learning

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Abstract. Communication skills in science learning need to be developed. This is because through communication students can organize their thinking. The purpose of this study was to determine the communication skills of elementary school students through the RADEC learning model. This research was conducted using a qualitative approach with a qualitative descriptive design. The subjects of this study were 18 fifth-grade students at one of the public elementary schools in the city of Bandung. Data on science communication skills were obtained through questionnaires and documentation and analyzed descriptively using percentage calculations. The results showed that the student's communication skills belonged to the visible category. The highest percentage on the indicators of clarity of speech and choice of words is 88%, while the lowest percentage is on the indicator of using library sources (printed books, internet, newspapers or magazines, TV, radio, etc.) according to the material being studied, which is 59%. The RADEC learning model has a good influence, especially on the discussion process .
Keywords: Communication Skills, RADEC Learning, Fire.

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INTRODUCTION

The development of the era in the 21st century experienced rapid changes in various aspects of human life. This requires humans to have skills and competencies to be able to compete and adapt for their survival. The skills needed in the 21st century according to Trilling & Fadel (2009) and Binkley, et al., (2012) are critical thinking and problem solving, creativity and innovation, collaboration, and information and communication literacy. One effort to achieve this is through the learning process. In line with the opinion (Bali & Arifa, 2022)that through the process of teaching and learning activities the quality of students achieve learning goals and student abilities can be achieved easily. This is also in line with(Yuliya Wati et al., 2019) who reveals that with the learning process, students are expected to be able to increase all the potential that exists within themselves and it is hoped that students can have awareness so that they can utilize knowledge, skills, the expertise he has. Entering the 21st century, education is directed at preparing people who have the various skills and competencies needed to solve everyday problems and the capability to make decisions in order to be able to compete in the era of globalization. Referring to this, it is necessary to make efforts to improve education so that in the future it can answer various existing problems and be able to face various challenges that exist today and in the future. One of the 21st century skills that must be developed is communication skills. According to (Putri et al., 2020)that communication skills can help students and facilitate expressing ideas and exchanging information. This skill is needed in the world of work because it is one of the 21st century skills that must be empowered in the learning process. Another report from the McKinsey Global Institute in (Hariyanto et al., 2019) also shows that poor communication skills are the reason why someone fails to meet the qualifications needed at work. In other words, communication skills are needed in the world of work and influence the direction and goals of education. These things must be improved by preparing competent students through basic skills, namely communication skills.

According to (Dewi et al., 2020) learning science does not only have the aim of mastering knowledge but in the process of learning science, that science also has a process of discovery. Science as part of education has an important role to answer these challenges, because in the learning process science can develop students' abilities, skills, and learning outcomes. This is also in line with Toharudin, Hendrawati & Rustaman (2011) which states that the purpose of science is to increase the competencies needed by students to be able to meet their needs in various

situations. Through these competencies, students will be able to develop themselves to study further and live in a society that is influenced by the rapidly changing times so that students can also be useful for themselves and the surrounding community. In connection with the previous statement, it seems that the world of education has great expectations for science subjects in schools.

According to Toharudin, Hendrawati & Rustaman (2011) the purpose of science is to increase the competencies needed by students to be able to meet their needs in various situations. Through these competencies students will be able to develop themselves for further study and live in a society that is influenced by the development of science and technology so that students can also be useful for themselves and the surrounding community. This opinion is in accordance with what was conveyed by Wisudawati and Sulistyowati (2015, p.26) that "science learning is the interaction between learning components in the form of a learning process to achieve goals in the form of predetermined competencies".

One of the competencies expected in the 21st century is communication skills. According to Iriantara (2014, p. 3) communication as "the process of sending, receiving and understanding ideas and feelings in the form of verbal or nonverbal messages intentionally or unintentionally". Meanwhile Mulyana (2005, p. 61) mentions that there are three frameworks for understanding communication, namely: (1) communication as a one-way action; (2) communication as interaction; and (3) communication as a transaction. So it can be concluded that communication is the process of conveying a message from the sender of the message to the recipient. The success of science communication owned by students also determines the success of the student's learning concerned. This is in accordance with Siswandi's statement (Kristiawati, 2014), namely that a student's communication needs to be continuously improved in order to improve intellectual abilities, emotional maturity, and social maturity. Especially at this time in order to face the various challenges that exist in this world, the skills that must be possessed by students must be better.

Research conducted by (Rianingsih et al., 2019) obtained pre-cycle data on student communication skills from 29 students showing a percentage of 45% in the low category. Furthermore, research conducted by (Kamaruzzaman, 2016) obtained data about students' interpersonal communication skills showing a percentage of 45.49% in the sufficient category. In addition, research conducted by (Arviani & Fajriyah, 2018) obtained data on students' communication skills without using the show and tell learning model with a complete percentage of only 17.39%, while using the show and tell learning model the percentage obtained was only 13.04% unfinished. Another study conducted by (Safitri et al., 2022) obtained the results of the pretest of students' oral communication abilities on the indicator of using easy-to-understand language 50% in the low category, the clarity indicator 60% in the medium category, the delivery method indicator 60% in the medium category, and indicators ask 40% questions with low category.

Based on the statement above, alternative solutions are needed, one of which is by presenting a learning model that is able to develop students' communication skills in the science learning process. Referring to several studies that have been conducted using the RADEC learning model which has a positive impact. The RADEC learning model (Read-Answer-Discuss-Explain and Create) was first introduced by (Sopandi, 2017). The RADEC learning model is a learning model that can encourage students to develop 21st century skills and master the learning concepts being studied (Handayani et al., 2019)

In this study, an analysis of students' communication skills will be carried out using the RADEC learning model on heat material. This study aims to analyze students' communication skills on heat material using the RADEC model.

METHOD

The method used in this research is descriptive qualitative method. According to (Kamaruzzaman, 2016)the descriptive method is research that tells and interprets research data during the research and presents research results according to the facts. Descriptive analysis in this study is in the form of the percentage of results from each aspect contained in the

communication skills indicator. This research was conducted at an elementary school in Bandung, West Java, with the research subject being a fifth grade student. The object of this research was to analyze the communication skills of students in the RADEC learning model class. The instruments used in this study were non-tests of students' communication skills or performance tests or performance assessments. The performance test or performance assessment used is to see how the development of scientific communication skills during the learning process takes place. The data obtained from the student performance observation sheet is quantitative data which will be analyzed descriptively by calculating percentages. The steps taken to process the data are as follows:

1. Calculate the total number of student scores from each aspect of performance observed

$$\text{Skor} = \frac{total\ score\ of\ student\ answers}{maximum\ number\ of\ scores}\ x\ 100$$

2. Determine the category of students' scientific communication skills

Table 1. Category Value of Student Communication Skills

Skor	Category
≥ 81	Very Skilled
66 – 80	Skilled
46 - 65	Skilled Enough
≤ 45	Less Skilled

DISCUSSION

Each aspect of communication skills is shown by each indicator of achievement in learning activities. The following section will describe the acquisition of data on the achievement of students' communication skills as follows:

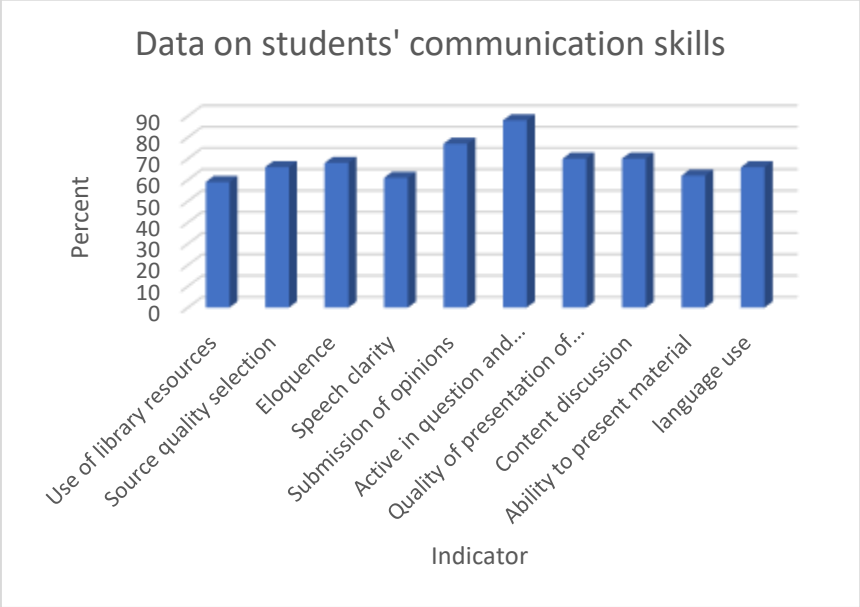

Figure 1. Student Communication Skill Data

Based on Figure 1 it shows that the data obtained on indicators of the use of library resources (printed books, internet, newspapers or magazines, TV, radio and others) according to the material being studied/information retrieval has the lowest percentage. Students generally use one or two as a source of information to find answers to questions posed. Students rely on blog pages on the internet and YouTube to get information regarding questions that must be answered compared to valid sources such as textbooks, scientific journals and articles. So this affects the answers written by students. According to Levy, et al in Hasanah (2021) reliable sources of information can be obtained from scientific books, scientific articles, government regulations, and/or interviews with experts. According to (Pattah, 2014) a person needs to be selective in choosing library sources so that the information obtained is in accordance with needs The ability

of students to find relevant information is closely related to students' reading abilities because students' reading is less scientific. Thus it can be assumed that students in carrying out assignments given by the teacher are only fixated on information from the internet, especially internet blog pages and YouTube only.

The selection of the quality of information sources in terms of the answers written by students based on the sources used, in general the students were quite precise in writing down the answers to the questions posed even though the sources used were only from the internet and YouTube because students reprocessed the information contained on the internet and YouTube to write in the answer column. Furthermore, the highest indicator is the clarity of speech and choice of words by 88%. In general, students in communicating have good abilities and are categorized as skilled. Students confidently read each answer aloud and use words according to Indonesian writing rules. The indicator in compiling answers to the questions that have been asked has a percentage of 66% which is included in the skilled category. Students communicate what is in the structure of the student's brain into writing with good quality of answer presentation and good content discussion of answer presentation.

There are two indicators that have the same percentage of 70%. Indicator active question and answer, can express ideas or ideas and the quality of the presentation of the answers. In general, in learning activities carried out using the RADEC learning model, students are active in expressing ideas and asking questions. This is because students are divided into several groups so that each group has the same enthusiasm to participate in group discussions. The influence of the RADEC learning process is very visible in the discussion indicators in groups, this is because in the RADEC learning process the intensity of group discussions is more frequent and group discussions are carried out for three meetings. There was a very clear difference from the first meeting, the second meeting, and the third meeting regarding the fluency of students in the discussion process both in terms of fluency in expressing opinions, clarity of speech and choice of words, being active in questioning, expressing ideas or ideas, respecting students' opinions. In the learning process, it can be seen that some students are already actively involved in the discussion process and express opinions, but there are also some students who are not actively involved in the discussion process.

CONCLUSION

The results of research on students' scientific communication skills in learning fire material fall into the category of skilled and moderately skilled. Students are already able to process information from sources obtained, but in its application it is not optimal. The ability of students in the aspect of seeking information, discussing in groups and compiling answers to questions that have been asked (writing) such as accessing and reading information from scientific sources and presenting information is quite good. The application of the RADEC model greatly influences the ability of students, especially in the discussion aspect, students are more active and confident and their communication skills are getting better.

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REFERENCES

Arviani, I., & Fajriyah, K. (2018). Keefektifan Model Show and Tell untuk Meningkatkan Keterampilan Berkomunikasi pada Materi Proklamasi Kemerdekaan Siswa Kelas V SD Negeri Babalan. *Al Ibtida: Jurnal Pendidikan Guru MI*, *5*(1).

Bali, M. M. E. I., & Arifa, S. (2022). ESKALASI KETERAMPILAN KOMUNIKASI SISWA MELALUI METODE SUGGESTOPEDIA DALAM MENGEMBANGKAN KUALITAS BELAJAR. *Muróbbî: Jurnal Ilmu Pendidikan*, *6*(1), 109–127.

Binkley,M et al. (2012). Defining Twenty-First Century Skill. London: Springer

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*.

Handayani, H., SOpandi, W., Syaodih, E., Setiawan, dadan, & 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), 79–93.

Hariyanto, H., Yamtinah, S., Sukarmin, S., Saputro, S., & Mahardiani, L. (2019). THE ANALYSIS OF STUDENT'S WRITTEN COMMUNICATION SKILLS IN SCIENCE LEARNING BASED ON GENDER IN THE MIDDLE SCHOOL IN SOUTH TANGERANG REGION. *EDUSAINS*, *11*(2), 249–254.

Hasanah, F. (2021). Analisis Keterampilan Komunikasi Ilmiah Siswa Pada Pembelajaran Biologi SMA di Masa Pandemik Covid-19. Skripsi. Fakultas Ilmu Tarbiyah dan Keguruan. Universitas Islam Negeri Syarif Hidayatullah.

Kamaruzzaman. (2016). ANALISIS KETERAMPILAN KOMUNIKASI INTERPERSONAL SISWA. *Jurnal Konseling GUSJIGANG*, *2*(2), 202–210.

Kristiawati, dkk. 2014. Keterlaksanaan dan Respon Siswa terhadap Pembelajaran dengan Pembuatan Poster untuk Melatihkan Keterampilan Komunikasi Sains Siswa. Jurnal Pendidikan Sains e-Pensa. 2 (2). 266- 270. ISSN: 2252-771.

Mulyana, D. 2005. Ilmu Komunikasi Suatu Pengantar. Bandung: PT Remaja. Rosdakarya.

Pattah, S. H. (2014). LITERASI INFORMASI: PENINGKATAN KOMPETENSI INFORMASI DALAM PROSES PEMBELAJARAN. *Jurnal Ilmu Perpustakaan & Kearsipan Khizanah Al-Hikmah*, *2*(2), 117–128.

Putri, A. J., Arsiti, & Kurniaawan, A. R. (2020). ANALISIS PENCAPAIAN KETERAMPILAN KOMUNIKASI PADA PROSES PEMBELAJARAN. *Jurnal Riset Pendidikan Dasar*, *3*(2), 154–161.

Rianingsih, D., Mawardi, & Wardani, K. W. (2019). *PENERAPAN MODEL PEMBELAJARAN TPS (THINK PAIR SHARE) DALAM RANGKA MENINGKATKAN KETERAMPILAN KOMUNIKASI SISWA KELAS 3*.

Safitri, E. M., Maulidina, I. F., Zuniari, N. I., Amaliyah, T., Wildan, S., & Supeno, S. (2022). Keterampilan Komunikasi Siswa Sekolah Dasar dalam Pembelajaran IPA Berbasis Laboratorium Alam tentang Biopori. *Jurnal Basicedu*, *6*(2), 2654–2663.

Sopandi, W. (2017). the Quality Improvement of Learning Processes and Achievements Through the Read-Answer-Discuss-Explain-and Create Learning Model Implementation. Dalam C. M. Keong, L.L. Hong, & R. Rao (Penyunting), Proceeding 8th Pedagogy International Seminar 2017, 8, 132–139. Kuala Lumpur: Institut Pendidikan Guru Kampus Ilmu Khas

Toharudin, u., Hendrawati, s., & Rustaman, a.. (2011). Membangun literasi sains peserta didik. Bandung: humaniora.

Trilling and Fadel. 2009. 21st-century skills: learning for life in our times. Jossey Bass: USA

Wisudawati & Sulistyowati (2015). Metodologi Pembelajaran IPA. Jakarta: PT Bumi Aksara

Yuliya Wati, M., Afkarina Maulidia, I., Irnawati, & Supeno. (2019). *KETERAMPILAN KOMUNIKASI SISWA KELAS VII SMPN 2 JEMBER DALAM PEMBELAJARAN IPA DENGAN MODEL PROBLEM BASED LEARNING PADA MATERI KALOR DAN PERUBAHANNYA*.