



Fifth Grade Students' Critical Thinking Skills in the Post-Pandemic Face-to-Face Learning Period

I Komang Wahyu Aditya Putra^{1*}, Putu Nanci Riastini², Made Vina Arie Paramita³ 

^{1,2,3} Pendidikan Guru Sekolah Dasar, Universitas Pendidikan Ganesha, Singaraja, Indonesia

ARTICLE INFO

Article history:

Received September 03, 2022

Accepted October 27, 2022

Available online November 25, 2022

Kata Kunci:

Berpikir Kritis, Pembelajaran Tatap muka, Pasca Pandemi

Keywords:

Critical Thinking, Face-to-face Learning, Post Pandemic



This is an open access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.

Copyright © 2022 by Author. Published by Universitas Pendidikan Ganesha.

ABSTRAK

Siswa memiliki keterampilan berpikir kritis rendah, disebabkan karena guru kurang merancang kegiatan pembelajaran yang dapat meningkatkan keterampilan berpikir kritis pada masa pandemi. Tujuan penelitian ini yaitu menganalisis keterampilan berpikir kritis siswa kelas V pada masa pembelajaran tatap muka pasca pandemi. Jenis penelitian ini yaitu penelitian deskriptif. Penelitian ini bersifat survey deskriptif. Populasi penelitian berjumlah 296 orang siswa. Pengambilan sampel menggunakan cluster random sampling. Sampel Penelitian Sekolah di Kota berjumlah 105. Sampel Penelitian Sekolah di Desa berjumlah 64. Metode pengumpulan data menggunakan metode tes. Instrumen yang digunakan dalam pengumpulan data yaitu soal tes uraian. Teknik yang digunakan untuk menganalisis data yaitu analisis statistik deskriptif. Hasil penelitian yaitu rata-rata hasil keterampilan berpikir kritis siswa kelas V SD pada masa tatap muka pasca pandemi tergolong dalam kategori tinggi. Rata-rata skor keterampilan berpikir kritis siswa cluster kota sebesar 67,18 dan rata-rata skor keterampilan berpikir kritis siswa cluster desa Disimpulkan bahwa rata-rata hasil keterampilan berpikir kritis siswa kelas V SD pada masa tatap muka pasca pandemi tergolong dalam kategori tinggi. sebesar 70.

ABSTRACT

Students have low critical thinking skills due to the lack of teachers designing learning activities that can improve necessary thinking skills during the pandemic. This study aims to analyze the essential thinking skills of fifth-grade students during the post-pandemic face-to-face learning period. This type of research is descriptive research. This research is a descriptive survey. The research population amounted to 296 students. Sampling using cluster random sampling. The sample of School Research in the City amounted to 105. The sample of Research Schools in the Village amounted to 64. The data collection method used was the test method. The instrument used in data collection is a description test question. The technique used to analyze the data is descriptive statistical analysis. The study's average results of the critical thinking skills of fifth-grade elementary school students during the face-to-face post-pandemic period were in the high category. The average score for essential thinking skills of city cluster students is 67.18, and the average score for village cluster students' necessary thinking skills is 70.

1. INTRODUCTION

21st-century learning is one of the impacts of the development of science and technology. In this century, students are required to have various skills so they can compete globally (Lubis, 2018; Ramdani et al., 2019). This makes the teacher must design learning activities that are appropriate to improve the skills that must be mastered by students (Junedi et al., 2020; Setyawan & Ahsan, 2020). Learning activities must be well designed so that students have 4C skills. These skills include skills in critical thinking, skills in creative and innovative thinking, communication skills, and collaboration skills (Arwanda et al., 2020; Nudiati & Sudiapermana, 2020).

Critical thinking skills are one of the skills currently being discussed in the world of education. Students are required to have critical and creative thinking skills in solving a problem, especially problems regarding life (Rambe et al., 2020; Seruni et al., 2020). These critical thinking skills are important aspects that must be developed so that they can respond to the challenges of the 21st century. Critical thinking skills are a way of thinking based on logical and reflective considerations in deciding a problem. (Arsy et al., 2020; Changwong et al., 2018). Critical thinking skills are skills in accessing, analyzing and synthesizing information that can be learned, taught, and mastered (Arter et al., 2016; Suardana et al., 2018). This skill can be learned by every student if educators can develop learning activities that can encourage students to think critically when solving a problem given by the teacher.

*Corresponding author.

E-mail addresses: wahyuaditya1023@gmail.com (I Komang Wahyu Aditya Putra)

Students who have critical thinking skills can investigate several cases systematically and can formulate innovative statements and design good solutions (Hussin et al., 2018; Syahrial et al., 2019).

The findings of previous research revealed that critical thinking skills are needed so that students can understand learning material well (Asriningtyas et al., 2018; Husnah, 2017). Other studies also reveal that these critical thinking skills need to be developed so students can solve problems wisely (Devi & Bayu, 2020; Dewi et al., 2017). This proves that students' critical thinking skills are needed in the 21st century so that students can take part in learning activities properly and can compete globally.

However, previous research revealed that there are still many students who have low critical thinking skills because teachers do not design learning activities that can improve critical thinking skills (Asriningtyas et al., 2018; Stanton & Stanton, 2017). The findings of other studies also reveal that there is a lack of students' critical thinking skills because teachers only tend to use conventional learning models so that students only listen to explanations from the teacher and are not required to have critical thinking skills. (Davidi et al., 2021; Defiyanti & Sumarni, 2019). The indicators of critical thinking skills used are basic clarification, asking and answering, making decisions, drawing conclusions, and providing further explanations (Astiwi et al., 2020). But of all the indicators used, the mastery of students' critical thinking skills was greatest in the asking and answering indicators, and in other indicators students were still lacking. Other research also shows that during the Covid-19 pandemic, students' critical thinking skills were categorized as quite critical (Zakaria, 2021).

The shift in educational activities is thought to have made changes that caused different levels of students' critical thinking skills. However, data on critical thinking skills during this period of change have not been found, including in Elementary School of Sukawati District. Data regarding students' critical thinking skills is very important because it can be used to improve face-to-face initial learning to reduce learning loss. There is no study on the critical thinking skills of fifth-grade students during the post-pandemic face-to-face learning period, so the purpose of this research is to analyze the critical thinking skills of fifth-grade students during the post-pandemic face-to-face learning period.

2. METHOD

This type of research is descriptive research, namely a survey. The location of this research is Elementary School of Sukawati District, Gianyar Regency. The population of this study was fifth-grade elementary school students in the Sukawati sub-district, with a total of 296 students in fifth grade. This study uses the Multistage Sampling technique. In this study, the combination of sampling methods used was cluster random sampling. By using cluster sampling, 10 schools were obtained which became the population in this study. Furthermore, the 10 schools were divided into 2 clusters, namely the city cluster and the village cluster. Cluster division was carried out because there were differences in the location of each school, some schools were located in urban areas and some were located in rural areas. The city clusters in question are schools located in urban areas and village clusters are schools located in rural areas. The total population in this study was 296 students.

Determination of the sample for students is carried out using the Slovin formula because there are 10 schools in the Sukawati sub-district, which make up the population so the 10 schools are divided into 2 clusters, namely villages and cities, so several samples of students will be taken from each school. according to the number of students in the school with an error rate of 5%. The results obtained from each proportional random sampling in city and village clusters as well as the total population are presented in Table 1 and Table 2.

Table 1. Total Population and School Research Samples in the City

No	School Name In City	Total Population	Number of Samples
1	SD Negeri 1 Sukawati	23	13
2	SD Negeri 1 Celuk	33	19
3	SD Negeri 3 Sukawati	57	33
4	SD Negeri 5 Kemenuh	30	17
5	SD Negeri 3 Batubulan Kangin	40	23
Total number		183	105

Table 2. Total Population and School Research Samples in the Village

No	School Name In City	Total Population	Number of Samples
1	SD Negeri 2 Sukawati	30	17
2	SD Negeri 3 Sukawati	27	15

No	School Name In City	Total Population	Number of Samples
3	SD Negeri 5 Sukawati	22	13
4	SD Negeri 4 Kemenuh	14	8
5	SD Negeri 6 Kemenuh	20	11
Total number		113	64

The data collection method uses the test method. The intended test is a test of critical thinking skills. The instrument used in data collection is a descriptive test. The instrument grid is presented in Table 3.

Table 3. Grids about Critical Thinking Skills

No	Aspects	Indicator	Question Number
1	Provide further explanation (advanced clarification)	Defining terms and assumptions and considering a definition	1
2	Ask and answer	Answer clarifying questions and challenging questions by providing simple explanations	2
3	Explore problems	Deep understanding of the problem situation	3
4	Draw a conclusion	Create and determine the results that have been considered	4

Test the validity of the items using the product moment correlation formula from Carl Pearson. Reliability test using Alpha Cronbach formula. Based on the results of the validity of the items on the 4 items tested through the Microsoft Office Excel 2016 program. The results obtained for the 4 questions tested were valid. Based on the results of the test reliability analysis with the help of Microsoft Office Excel 2016, a reliability of 0.70 was obtained. This shows the reliability of the tested test meets the high criteria.

The technique used to analyze the data is descriptive statistical analysis. Descriptive analysis was carried out to determine the high and low quality of the critical thinking skills test. In determining the high and low quality of the variables, the average score (mean) of each variable is converted using the ideal average (Mi) and ideal standard deviation (SDi) criteria. Rating scale or category on a scale of five.

3. RESULT AND DISCUSSION

Result

The results of critical thinking skills were obtained from the critical thinking skills test data given to 105 students for the city cluster. The data shows that the highest value is 95 and the lowest value is 30. Based on the calculation results, it is found that the average score of students on the city cluster critical thinking skills test is 67.18 fulfilling the category $58 \leq X < 75$, then the city cluster critical thinking skills test results are categorized as high. Observation and understanding of the distribution of the mean, median, and mode values on the critical thinking skills test results are seen in Figure 1.

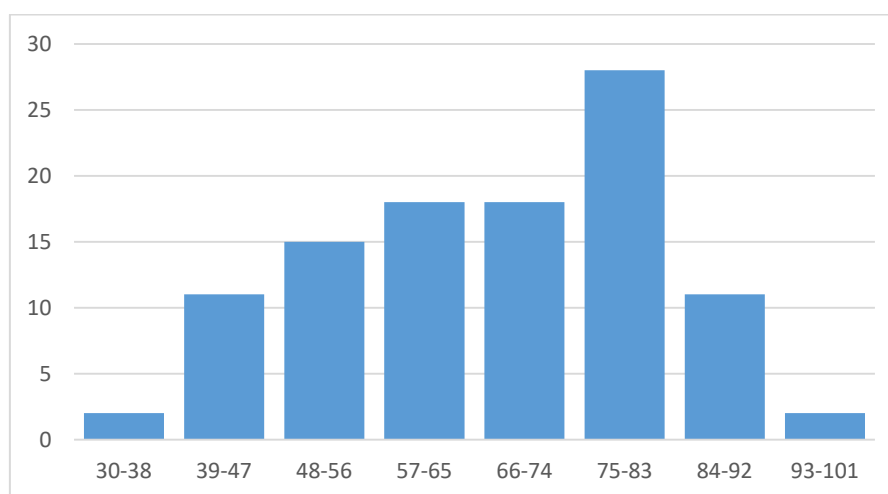


Figure 1. Graph of City Cluster Critical Thinking Skills Data Distribution

Based on the graph, it can be seen that the mean is 67.18, the median is 68.74, and the mode is 77.83. The graph presents data for each class interval score of the city cluster's critical thinking skills starting from 30-38 with a frequency of 2, up to class intervals 93-101 with a frequency of 2. The results of the analysis show that the highest score is 95 and the lowest score is 30.

For the village cluster, the results of the critical thinking skills test were obtained from the data given to 64 students. The data shows that the highest score is 90 and the lowest score is 35. The results of data analysis show that 1 student gets the lowest score and 9 students get the highest score. Based on the results of data analysis, it was found that the average score of students on the village cluster critical thinking skills test, namely 70, fulfilled the category $58 \leq X < 75$, so the student learning outcomes were categorized as high. Observation and understanding of the distribution of the mean, median, and mode values on the results of the village cluster critical thinking skills test can be seen in Figure 2.

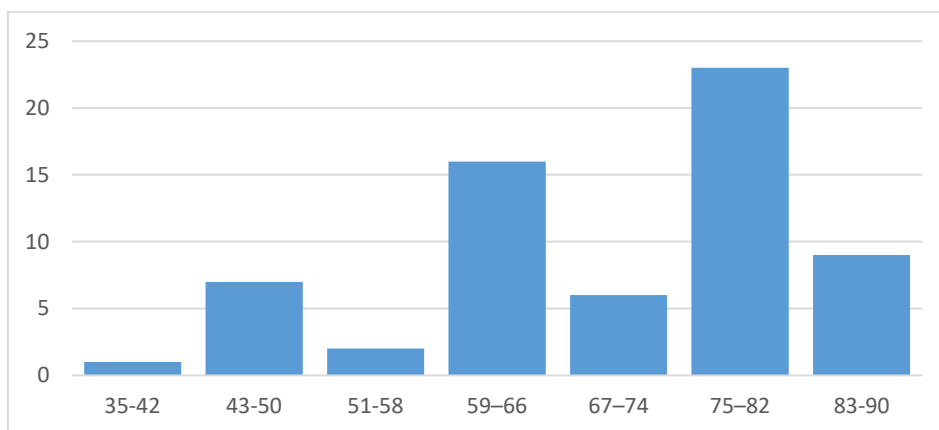


Figure 2. Graph of Village Cluster Critical Thinking Skills Data Distribution

Based on the graph, it can be seen that the mean is 70, the median is 74.5, and the mode is 78.9. The graph presents data for each class interval score of the village cluster's critical thinking skills starting from 35-42 with a frequency of 1, up to class intervals 83-90 with a frequency of 9. The results of the analysis found that the highest score was 90 and the lowest score was 35. The average results of the critical thinking skills of the fifth-grade students of Elementary School Sukawati District during the face-to-face post-pandemic period are classified in the high category based on the PAP scale of 5. Judging from the calculations, the average score for critical thinking skills for city cluster students is 67.18 and the average score for critical thinking skills of village cluster students is 70.

Discussion

In post-pandemic learning, students looked very enthusiastic about participating in learning activities. This is because students can meet friends and teachers who teach so that learning activities are carried out more actively than during online learning. Learning activities that make students feel happy learning will certainly increase students' enthusiasm for participating in learning activities, so it will have an impact on better student understanding (Astalini et al., 2019; Barni et al., 2019). Post-pandemic learning gives students more active learning. The activeness of students in this learning process occurs because of the interaction of students with the environment (O'Connor, 2021; Wijanarko, 2017). In addition, students are allowed to learn to work together with friends. This interactive learning activity makes the learning atmosphere more active and fun (Elfa, 2017; Irawan & Suryo, 2017). The occurrence of student interaction with the environment will create concepts and knowledge in students so that they can build students ways of thinking (Jalinus et al., 2021; Saputra et al., 2019).

The activeness of students makes students able to think broadly and can make students construct their knowledge (Cintia et al., 2018; Fuad et al., 2017). In learning activities in class, students often ask questions to the teacher and even students do not hesitate to give their arguments to the teacher. This will certainly improve students' critical thinking skills. This student's critical thinking ability can increase when the teacher gives a problem and students succeed in providing arguments and solutions related to the problem presented by the teacher (Changwong et al., 2018; Pramestika et al., 2020). In addition, several factors can lead to increased students' critical thinking skills, namely, first, the physical condition of students is healthy so that students can think carefully in solving a problem. Second, is motivation,

students who have a passion for learning can also defend their own opinions, influencing students' thinking skills (Anggraini et al., 2018; Lian et al., 2020).

In the city cluster and village cluster there are differences in learning activities. In the city cluster, the learning that is carried out in class is very friendly and fun, but students rarely get group learning so students rarely exchange ideas. Therefore, many students ask what they do not understand directly to the teacher. In village clusters, learning is carried out almost the same as in cities, but in student learning, there is more group study. Therefore, students exchange ideas more with friends to increase the sense of cooperation in solving a problem given to the teacher (Muliani & Wibawa, 2019; Nurmayani et al., 2018). Research reveals that in groups a sense of cooperation arises that can spur students' creativity in solving a problem (Dharmayanti et al., 2017; Jayanti et al., 2017). Group learning will provide experience to students, train communication, and help increase student understanding (Sutama et al., 2017; Widnyana & Sujana, 2017). These critical thinking skills can also be developed through practice questions and discussions in solving a problem.

Previous research revealed that factors that can influence students' critical thinking skills are self-confidence and students' experience in learning (Nur Kusuma Dewi, 2016; Nurhayati et al., 2021). Student interactions with teachers and friends will certainly affect student skills so that they can improve students' critical thinking skills. Other research also revealed that the interactions that occur between students and the environment make students active so they can build students knowledge concepts (Faisal Mustofa et al., 2019; Sanderayanti, 2015). Other research also reveals that group learning can train students to work together so that students can solve a problem (Muthoharoh, 2017; Widiartini et al., 2018). The results of this study are actually in line with the research that has been carried out. It can be concluded that in improving students' critical thinking skills, a mature and good learning design is needed so that they can build and develop students' thinking skills in solving a problem. This research implies that students' critical thinking skills can be developed when teachers design good learning and can stimulate students' thinking skills so that they can improve students' thinking skills.

4. CONCLUSION

The average results of the critical thinking skills of the fifth graders of Elementary School Sukawati District during the face-to-face post-pandemic period are in the high category. The results of the data analysis showed that the average score of students' critical thinking skills in the village cluster had a higher average than in the city cluster.

5. REFERENCES

- Anggraini, D., Relmasira, S., & Tyas Asri Hardini, A. (2018). Penerapan Model Pembelajaran Student Teams Achievement Division (Stad) Melalui Media Pembelajaran Ular Tangga Untuk Meningkatkan Kemampuan Berpikir Kritis Dan Hasil Belajar Ips Pada Peserta Didik Kelas 2 Sd. *Pendekar : Jurnal Pendidikan Berkarakter*, 1(1), 324. <https://doi.org/10.31764/pendekar.v1i1.379>.
- Arsy, H. I., Prasetyo, A. P. B., & Subali, B. (2020). Predict-Observe-Explain Strategy with Group Investigation Effect on Students' Critical Thinking Skills and Learning Achievement. *Journal of Primary Education*, 9(1), 75-83. <https://doi.org/10.15294/jpe.v9i1.29109>.
- Arter, M. L., Wallace, L. N., & Shaffer, T. L. (2016). The Use of Reflective Journals to Stimulate Critical Thinking in the Academic Internship. *Journal of Criminal Justice Education*. <https://doi.org/10.1080/10511253.2015.1109132>.
- Arwanda, P., Irianto, S., & Andriani, A. (2020). Pengembangan Media Pembelajaran Articulate Storyline Kurikulum 2013 Berbasis Kompetensi Peserta Didik Abad 21 Tema 7 Kelas Iv Sekolah Dasar. *Al-Madrasah: Jurnal Pendidikan Madrasah Ibtidaiyah*, 4(2), 193. <https://doi.org/10.35931/am.v4i2.331>.
- Asriningtyas, A. N., Kristin, F., & Anugraheni, I. (2018). Penerapan Model Pembelajaran Problem Based Learning untuk Meningkatkan Kemampuan Berpikir Kritis dan Hasil Belajar Matematika Siswa Kelas 4 SD. *Jurnal Unimus*, 5(2), 5-10. <https://doi.org/10.31004/basicedu.v2i2.137>.
- Astalini, Kurniawan, D. A., Darmaji, Sholihah, L. R., & Perdana, R. (2019). Characteristics of students' attitude to Physics in Muaro Jambi High School. *Humanities and Social Sciences Reviews*, 7(2), 91-99. <https://doi.org/10.18510/hssr.2019.7210>.
- Astiwi, K. P. T., Antara, P. A., & Agustiana, I. G. A. T. (2020). Pengembangan Instrumen Penilaian Kemampuan Berpikir Kritis Siswa SD pada Mata Pelajaran PPKn. *Jurnal Ilmiah Pendidikan Profesi Guru*, 3(2), 461-469. <https://doi.org/10.23887/jippg.v3i3>.
- Barni, D., Danioni, F., & Benevene, P. (2019). Teachers' self-efficacy: The role of personal values and

- motivations for teaching. *Frontiers in Psychology*, 10(JULY), 1–7. <https://doi.org/10.3389/fpsyg.2019.01645>.
- Changwong, K., Sukkamart, A., & Sisan, B. (2018). Critical thinking skill development: Analysis of a new learning management model for Thai high schools. *Journal of International Studies*, 11(2), 37–48. <https://doi.org/10.14254/2071>.
- Cintia, N. I., Kristin, F., & Anugraheni, I. (2018). Penerapan Model Pembelajaran Discovery Learning Untuk Meningkatkan Kemampuan Berpikir Kreatif Dan Hasil Belajar Siswa. *Perspektif Ilmu Pendidikan*. <https://doi.org/10.21009/pip.321.8>.
- Davidi, E. I. N., Sennen, E., & Supardi, K. (2021). Integrasi Pendekatan STEM (Science, Technology, Enggeenering and Mathematic) Untuk Peningkatan Keterampilan Berpikir Kritis Siswa Sekolah Dasar. *Scholaria: Jurnal Pendidikan dan Kebudayaan*, 11(1), 11–22. <https://doi.org/10.24246/j.js.2021.v11.i1.p11-22>.
- Defiyanti, & Sumarni. (2019). Analisis Kemampuan Berpikir Kritis Setelah Penerapan Problem Based Learning Berbantuan Lembar Kerja Peserta Didik Bermuatan Etnosains. *Jurnal Phenomenon Pendidikan MIPA*, 9(2), 206–218. <https://doi.org/10.21580/phen.2019.9.2.4200>.
- Devi, P. S., & Bayu, G. W. (2020). Berpikir Kritis dan Hasil Belajar IPA Melalui Pembelajaran Problem Based Learning Berbantuan Media Visual. *Mimbar PGSD Undiksha*, 8(2), 238–252. <https://doi.org/10.23887/jjgsd.v8i2.26525>.
- Dewi, N. P. S. R., Wibawa, I. M. C., & Devi, N. L. P. L. (2017). Kemampuan Berpikir Kritis Dan Keterampilan Proses Dalam Pembelajaran Siklus Belajar 7E Berbasis Kearifan Lokal. *JPI (Jurnal Pendidikan Indonesia)*, 6(1), 2541–7207. <https://doi.org/10.23887/jpi-undiksha.v6i1.9476>.
- Dharmayanti, N. P., Ardana, I. K., & Suniasih, N. W. (2017). Pengaruh Model Pembelajaran Kooperatif Tipe Think Pair Share Berbasis Outdoor Study Terhadap Kompetensi Pengetahuan IPA. *Mimbar PGSD*, 5, 1–10. <https://doi.org/10.23887/jjgsd.v5i2.10709>.
- Elfa, S. (2017). Penggunaan Model Pembelajaran Interaktif Berbasis Aktivitas Untuk Meningkatkan Prestasi Belajar Siswa Kelas VI Pada Pelajaran PKN SD Negeri 09 Kabawetan. *Jurnal Ilmiah Pendidikan Guru Sekolah Dasar*, 10(2). <https://doi.org/10.33369/pgsd.10.2.66-72>.
- Faisal Mustofa, R., Pendidikan Biologi, J., & Siliwangi, U. (2019). Pengaruh Pembelajaran Learning Cycle 5e Terhadap Kemampuan Berpikir Kritis Dan Hasil Belajar. *Bioedusiana: Jurnal Pendidikan Biologi*, 3(2), 51–58. <https://doi.org/10.34289/277889>.
- Fuad, N. M., Zubaidah, S., Mahanal, S., & Suarsini, E. (2017). Improving Junior High Schools ' Critical Thinking Skills Based on Test Three Different Models of Learning. *International Journal of Instruction*, 10(1), 101–116. <https://doi.org/10.12973/iji.2017.1017a>.
- Husnah, M. (2017). Hubungan Tingkat Berpikir Kritis Terhadap Hasil Belajar Fisika Siswa Dengan Menerapkan Model Pembelajaran Problem Based Learning. *Journal of Physics and Science Learning (PASCAL)*, 01(2), 10–17. <https://doi.org/10.1088/1742-6596/1157/3/032009>.
- Hussin, W. N. T. W., Harun, J., & Shukor, N. A. (2018). Problem Based Learning to Enhance Students Critical Thinking Skill via Online Tools. *Asian Social Science*, 15(1), 14. <https://doi.org/10.5539/ass.v15n1p14>.
- Irawan, E., & Suryo, T. (2017). Implikasi Multimedia Interaktif Berbasis Flash Terhadap Motivasi dan Prestasi Belajar Matematika. *Beta Jurnal Tadris Matematika*, 10(1), 33. <https://doi.org/10.20414/betajtm.v10i1.17>.
- Jalinus, N., Verawardina, U., Azis Nabawi, R., & Darma, Y. (2021). Developing Blended Learning Model in Vocational Education Based On 21st Century Integrated Learning and Industrial Revolution 4.0. *Turkish Journal of Computer and Mathematics Education*, 12(8), 1239–1254. <https://doi.org/10.17762/turcomat.v12i9.3480>.
- Jayanti, E. D., Aryana, I., & Gunamantha, I. M. (2017). Pengaruh Model Pembelajaran Sains Teknologi Masyarakat terhadap Hasil Belajar Ipa Ditinjau dari Literasi Digital Siswa Kelas V Sekolah Dasar Gugus VI Kecamatan Mengwi. *PENDASI: Jurnal Pendidikan Dasar Indonesia*, 1(2), 55–64. <https://doi.org/10.23887/jpdi.v1i2.2681>.
- Junedi, B., Mahuda, I., & Kusuma, J. W. (2020). Optimalisasi keterampilan pembelajaran abad 21 dalam proses pembelajaran pada Guru MTs Massaratul Mut'allimin Banten. *Transformasi: Jurnal Pengabdian Masyarakat*, 16(1), 63–72. <https://doi.org/10.20414/transformasi.v16i1.1963>.
- Lian, B., Kristiawan, M., Ammelia, D., Primasari, G., Anggung, M., & Prasetyo, M. (2020). Teachers' Model in Building Students' Character. *Journal of critical reviews*, 7(14), 927–932. <https://doi.org/10.31838/jcr.07.14.165>.
- Lubis, A. H. (2018). Integrasi TIK Dalam Pengajaran Bahasa Inggris Di Indonesia Abad Ke-21: Mitos Dan Realita. *Cakrawala Pendidikan*, 37(1), 11–21.
- Muliani, N. K. D., & Wibawa, I. M. C. (2019). Pengaruh Model Pembelajaran Inkuiri Berbantuan Video

- Terhadap Hasil Belajar IPA Terbimbing. *Jurnal Ilmiah Sekolah Dasar*, 3(1), 107–114. <https://doi.org/10.31539/spej.v2i1.333>.
- Muthoharoh, N. B. (2017). Pengaruh Model Pembelajaran Kooperatif “Think Pair Share” terhadap Hasil Belajar Bahasa Inggris. *SAP (Susunan Artikel Pendidikan)*, 2(1), 33–42. <https://doi.org/10.30998/sap.v2i1.1509>.
- Nudiati, D., & Sudiapermana, E. (2020). Literasi Sebagai Kecakapan Hidup Abad 21 Pada Mahasiswa. *Indonesian Journal of Learning Education and Counseling*, 3(1), 34–40. <https://doi.org/10.31960/ijolec.v3i1.561>.
- Nur Kusuma Dewi, N. R. U. K. (2016). Berpikir, Kemampuan Siswa, Kritis Sistem, Materi. *Journal of Biology Education*, 5(3), 310–318.
- Nurhayati, L., Maula, L. H., & Nurasiah, I. (2021). Kecerdasan Emosional dan Kemampuan Berpikir Kritis pada Materi Bangun Datar di Kelas Tinggi Sekolah Dasar. *Mimbar Ilmu*, 26(2). <https://doi.org/10.23887/mi.v26i2.36919>.
- Nurmayani, L., Doyan, A., & Sedijani, P. (2018). Pengaruh Model Pembelajaran Inkuiri Terbimbing Terhadap Hasil Belajar Fisika Peserta Didik. *Jurnal Penelitian Pendidikan IPA*. <https://doi.org/10.29303/jppipa.v4i2.113>.
- O'Connor, N. (2021). Using active learning strategies on travel and tourism higher education programmes in Ireland. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 29. <https://doi.org/10.1016/j.jhlste.2021.100326>.
- Pramestika, N. P. D., Wulandari, I. G. A. A., & Sujana, I. W. (2020). Enhancement of Mathematics Critical Thinking Skills through Problem Based Learning Assisted with Concrete Media. *Journal of Education Technology*, 4(3), 254. <https://doi.org/10.23887/jet.v4i3.25552>.
- Rambe, Y. A., Silalahi, A., & Sudrajat, A. (2020). The Effect of Guided Inquiry Learning Model and Critical Thinking Skills on Learning Outcomes. *Research in Chemistry and Chemistry Education*, 488(Aisteel), 151–155. <https://doi.org/10.2991/assehr.k.201124.033>.
- Ramdani, A., Jufri, A. W., Gunawan, G., Hadisaputra, S., & Zulkifli, L. (2019). Pengembangan Alat Evaluasi Pembelajaran Ipa Yang Mendukung Keterampilan Abad 21. *Jurnal Penelitian Pendidikan IPA*, 5(1). <https://doi.org/10.29303/jppipa.v5i1.221>.
- Sanderayanti, D. (2015). Pengaruh Motivasi Berprestasi Dan Kemampuan Berpikir Kritis Terhadap Hasil Belajar Matematika Siswa Di Sdn Kota Depok. *Jurnal Pendidikan Dasar*, 6(2), 222. <https://doi.org/10.21009/jpd.062.04>.
- Saputra, M. D., Joyoatmojo, S., Wardani, D. K., & Sangka, K. B. (2019). Developing critical-thinking skills through the collaboration of Jigsaw model with problem-based learning model. *International Journal of Instruction*, 12(1), 1077–1094. <https://doi.org/10.29333/iji.2019.12169a>.
- Seruni, R., Munawaroh, S., Kurniadewi, F., & Nurjayadi, M. (2020). Implementation of E-module flip PDF professional to improve students' critical thinking skills through problem based learning. *Journal of Physics: Conference Series*, 1521(4), 1–6. <https://doi.org/10.1088/1742-6596/1521/4/042085>.
- Setyawan, C. E., & Ahsan. (2020). Arah perencanaan pembelajaran bahasa Arap abad 21. *Jurnal Komunikasi dan Pendidikan Islam*, 9(1), 55–82. <https://doi.org/10.36668/jal.v9i1.133>.
- Stanton, A. D., & Stanton, W. W. (2017). Using journaling to enhance learning and critical thinking in a retailing course. *Journal for Advancement of Marketing Education*.
- Suardana, I. N., Redhana, I. W., Sudiatmika, A. A. I. A. R., & Selamat, I. N. (2018). Students' Critical Thinking Skills in Chemistry Learning Using Local Culture-Based 7E Learning Cycle Model. *International Journal of Instruction*, 11(2), 399–412. <https://doi.org/10.12973/iji.2018.1128a>.
- Sugiyono. (2016). *Metode Penelitian Kombinasi (Mix Methode)*. Alfabeta.
- Sutama, I. P. E., Dibia, I. K., & Margunayasa, I. G. (2017). Pengaruh Model Pembelajaran Think Pair Share (Tps) Berbantuan Media Konkret Terhadap Hasil Belajar IPA. *Mimbar PGSD Undiksha*, 5. <https://doi.org/10.23887/jjpgsd.v5i2.10683>.
- Syahrial, S., Asrial, A., Kurniawan, D. A., & Pratama, R. A. (2019). Towards improving the critical thinking skills of pre-service teachers in Indonesia. *Journal of Education and Learning (EduLearn)*, 13(4), 575–582. <https://doi.org/10.11591/edulearn.v13i4.13613>.
- Widiartini, P. D. O., Putra, M., & Manuaba, S. (2018). Pengaruh Model Pembelajaran Group Investigation Berbasis Tri Hita Karana Terhadap Kompetensi Pengetahuan IPA. *Jurnal Ilmiah Sekolah Dasar*, 3. <https://doi.org/10.23887/jisd.v3i3.19476>.
- Widnyana, I. G., & Sujana, I. W. (2017). Pengaruh Model Pembelajaran Role Playing Berbasis Tri Hita Karana Terhadap Kompetensi Pengetahuan Ips Kecamatan Denpasar Timur Tahun Pelajaran 2016 / 2017. *Mimbar PGSD Undiksha*, 5. <https://doi.org/10.23887/jjpgsd.v5i2.11995>.
- Wijanarko, Y. (2017). Model Pembelajaran Make a Match Untuk Pembelajaran IPA Yang Menyenangkan. *Taman Cendekia: Jurnal Pendidikan Ke-SD-an*, 1(1), 52. <https://doi.org/10.30738/tc.v1i1.1579>.

Zakaria. (2021). Kecakapan Abad 21 Dalam Pembelajaran Pendidikan Dasar Masa Pandemi Covid-19. *Jurnal Dirasah*, 4(2), 81–90. <https://doi.org/10.51476/dirasah.v4i2.276>.