

Literature Review, Critical Thinking Skills in Primary School Students

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Abstract: This research aims to determine critical thinking skills at the elementary school level, especially in the implementation of the "Kurikulum Merdeka" based on a literature review. This research is a literature review which is part of qualitative research. The collection of sources was obtained from literature, both books and articles and other sources that support this research. Based on the findings from the literature review, students' critical thinking abilities at elementary school level are determined by several factors, such as, learning motivation, intellectual development, learning independence, models, strategies and learning media used by teachers.

INTRODUCTION

The ability to think critically is an ability that is essential for life, work, and functioning effectively in all other aspects of life (Elder & Paul, 2020), (Saravanakumar, 2020), (Bean & Melzer, 2021). Critical thinking is a high level thinking process that can be used in forming students' concept systems. Education as one of the efforts to make the nation smarter places the ability to think as an important competency. The goal of the education system is educated people who are independent and can think effectively (Zhu et al., 2016), (Lunenburg & Ornstein, 2021), .

Looking at education today, teachers in schools tend to focus on transferring information by providing a limited portion of critical and creative thinking (Ertmer et al., 2012), (Davies et al., 2013). Critical thinking is an ability needed to be able to test the accuracy of the information obtained so that it can be concluded whether the information can be trusted or not. For students, they often just accept the information that comes to them without first thinking about its truth. This is where we require them to have critical thinking skills. Critical thinking skills are students' cognitive processes in systematically and specifically analyzing the problems they face, distinguishing these problems carefully and thoroughly, and identifying and reviewing information to plan problem-solving strategies. Students who can think critically will definitely be good at solving problems efficiently (Mäkiö & Mäkiö, 2023), (Kong, 2015).

Critical thinking has an important role in developing potential, carrying out assignments, and finding solutions to problems encountered, as well as being able to draw conclusions about the material that has been taught during the learning process. The formation of students' optimal critical thinking abilities requires interactive classes, students are seen as thinkers, not as people being taught, and teachers act as mediators, facilitators and motivators who help students learn, not teach (Terblanche & De Clercq, 2020), (Raya, 2012).

Knowing the fact that critical thinking skills have a big role in students' abilities, both in the

cognitive, affective and skill domains, it is important to carry out studies on critical thinking based on reviews of various research results that have been carried out. This aims to get a holistic understanding of elementary school students' critical thinking abilities.

METHOD

The research method used in preparing this research is the literature study research method (Library Research) and is included in qualitative research. Literature study is a method of collecting data by searching for and reading existing written sources such as books or literature that explain the theoretical basis (Klarer, 2013), (Fink, 2019), (Chigbu et al., 2023). It is the same as collecting data and information by exploring knowledge or knowledge from sources such as books and written works. In qualitative research, the instrument or research is the researcher himself (Tracy, 2019). Qualitative research as a human instrument functions to apply research focus, select information as a data source, collect data, assess data quality, analyze data, interpret data, and draw conclusions about the findings (Dey, 2003). The research instrument that researchers used in this research was documentation studies which included books and journals. The documentation used in this research includes books and journals. Meanwhile, the data analysis technique in this research is a qualitative data analysis technique based on library data about research variables.

RESULT AND DISCUSION

Critical Thinking in the “Kurikulum Merdeka”

It is known that critical thinking is a person who is able to conclude what he has, knows how to use information to solve problems, and is able to look for relevant sources of information to support problem solving (Moneva et al., 2020), (Paul & Elder, 2019). People who are able to think critically are people who are able to conclude what they know, know how to use information to solve a problem, and are able to look for relevant sources of information to support problem solving. Critical thinking can be seen as a student's thinking ability to compare two or more pieces of information, for example information received from outside with the information they have (Cottrell, 2023). Critical thinking is an individual's mental activity to make decisions in solving problems faced with various information that has been obtained through several categories (Widana, 2022), (Haris, 2019).

Critical thinking skills are students' way of thinking in analyzing an object or problem with several considerations, to determine a decision that is carried out rationally and actively (Halpern, 2013). Critical thinking skills are really needed in social life, so students must be trained and habituated starting from an early age, then developed through education at school. The development of critical thinking skills is accompanied by the formation of better skills and attitudes. Critical thinking is one of the keys to student intelligence (Dahl et al., 2018).

In the era of independent education, learning encourages students to manage learning materials independently, therefore the role of teachers is very much needed to form learning independence, and this causes limitations in face-to-face meetings with subject teachers. Critical thinking education is one of the six basic goals of education. Critical thinking educational activities certainly need to be supported by good cognitive abilities by each student (Mogea, 2022), (Ennis, 2018).

This independent curriculum is issued and implemented with the aim of providing students with an understanding of the material to be taught. Learning uses several approaches that have high scientific knowledge, so that students are able to think critically in learning, students are able to explore information from whatever point of view they have found. In this way, students do not rely

on teachers as a means of providing information. Professional educators certainly implement learning that has an orientation aspect to consider students and their knowledge (Entwistle & Peterson, 2004), (Cobb, 2016). Critical thinking in students certainly requires a quality learning process, therefore learning that applies critical thinking and applies student characteristics is more meaningful in education. In independent learning-based learning, the objective is to provide concepts in a material using several learning models, one of which is the problem-based learning model (Taylor & Miflin, 2008).

Problem Based Learning model supports students' critical thinking abilities

In accordance with the mandate of the independent curriculum which recommends using learning models in implementing learning in schools. One learning model that is suitable for improving critical thinking skills is the PBL (Problem Based Learning) model. Problem-based learning is learning, students work on authentic problems with the aim of constructing their own knowledge, developing inquiry and higher level thinking skills, developing independence and self-confidence (Hatisaru & Küçükturan, 2009), (Napitupulu et al., 2023).

In the Kurikulum Merdeka and Kurikulum 2013, apart from being tasked with transforming knowledge, teachers must also be able to awaken character. One model that is able to make this happen is problem based learning. The benefit of the problem-based learning model is that it helps students to develop critical thinking abilities, problem solving and intellectual skills, as well as learning to act as adults. Students are more active in solving problems around them (Khoiriyah et al., 2015), (Ali, 2019).

PBL is a learning model that applies cognitive and constructivist theories because it constructs existing knowledge and skills with new information in order to solve problems (Gamar & Tati, 2021). It is important for students to have critical thinking skills because these skills enable students to be able to analyze and evaluate information in determining reliable information, so that it can be used as a basis for drawing valid conclusions (Kokkidou, 2013), (Ghufron, 2023).

The Problem Based Learning (PBL) model helps students to become more adept at critical thinking. One of the latest learning models that can be used to help students develop critical thinking skills or problem-solving skills is the Problem Based Learning model (Bahri et al., 2022). Authentic problems or problems that students will encounter in everyday life are used in Problem Based Learning activities, and it is hoped that they can find solutions to the problems they face (Boud & Feletti, 2013). The process of critical thinking skills needs to be trained because it does not come by itself, so it needs to be familiarized or developed by actively involving students (Ten Dam & Volman, 2004). Consequently, issues that arise in everyday life will become the main focus. Students are required to carry out experiments, discuss and solve problems as a result of the problems presented. The teacher presents a problem, and students are encouraged to use their critical thinking skills to solve it using the Problem Based Learning model.

Teaching and learning activities regarding the problem-based learning model in groups, the success of a lesson ultimately depends on each group. Therefore, members in the group are active and can complete activities to form collaboration, with this learning making students better at critical thinking skills. When the problem-based learning model is used, it is assumed that students will play an active role in problem solving by being presented with real-world problems related to their daily lives. Students are more active in finding out by conducting experiments and becoming more communicative in group discussions. Students solve problems based on students' own knowledge and discussions between group members as well as guidance from the teacher.

Some Findings, Critical Thinking in Social Sciences Subjects in Elementary School

Based on the results of the literature review, various research results were found related to the theme of writing. That critical thinking in social studies learning is very necessary because it provides students with early knowledge to overcome social problems in the surrounding environment. The research in question is as follows:

First, research conducted by Saktian Dwi Hartantri and Aam Amalia with the title "Analysis of Students' Critical Thinking Ability in Social Sciences Subjects for Class IV of SD Negeri Kedaung Barat 3, Tangerang Regency" concluded that critical thinking skills in social studies learning materials are very much needed by students in class IV of SD. Negeri Kedaung Barat III and must be drilled as early as possible. Students who master critical thinking skills are still lacking. Judging from the mastery of indicators in the critical thinking stage, most students can immediately conclude the answers they get without recognizing and observing the question or problem they are going to solve. They can also provide reasons for making this decision but cannot answer and analyze why these reasons were taken and used as a solution to solve the problem (Hartantri¹ & Amaliyah, n.d.).

Second, research conducted by Tri Ulfa and Erni Munaswiti with the title "Critical Thinking Skills in Social Science Learning" concluded that there is a conclusion that in the Industrial Revolution 4.0 era, 4 types of skills are needed, one of which is critical thinking skills. Critical thinking skills can be started from the elementary/MI level through social studies subjects, where social studies is a combination of social sciences and humanities which allows students to develop into individuals who are able to adapt to social life (Ulfa & Munastiwi, 2021).

Third, research conducted by Ahmad Susanto et al with the title "Improving Students' Critical Thinking Ability in Social Sciences Subjects Through the Controversial Issue Model" found that through the implementation of the learning and teaching process using controversial issues in the social studies teaching and learning process in economics material for class 4A students in SD Negeri Waru 01, has been proven to improve critical thinking skills. Based on data obtained from observations during research, the critical thinking skills of class 4A students before being given action were only 13% of 44 students, in cycle 1 the increase reached 57% and in cycle II the increase reached 86% of 44 students. Students are able to see problems from the given topic, analyze and convey appropriate solutions to existing problems, so that students are able to provide opinions on the learning process and teaching and learning activities become more active. This data proves that class 4A students at SD Negeri Waru 01 experienced significant changes to reach the target (Susanto et al., 2020).

Fourth, research conducted by Ina Magdalena et al with the title "Analysis of Grade IV Students' Critical Thinking Abilities in Social Studies Learning at SDN Pondok Bahar 2", concluded that the results of the analysis of Grade 4 students' critical thinking abilities in social studies learning at SDN Pondok Bahar 02 showed that the average value before action was only 62.59. The percentage of students who got a score of ≥ 75 was 42% and those who got a score of ≤ 75 was 58%, meaning that less than half of the students in class IV at SDN Pondok Bahar 02 could meet the KKM, so it can be said that the score achieved by students in taking the essay test in social studies subjects in class IV SDN Pondok Bahar 02 are still very low. The results of this research can provide an explanation of the level of critical thinking to students, teachers and school officials. Students' critical thinking abilities are still lacking or low because students are not yet trained in the indicators of their ability to think critically, and there is still a lack of learning that is applied to empower students' abilities to think critically. Teachers are more innovative and more creative in designing the learning process, especially in developing students' critical thinking abilities (Magdalena et al., 2021).

Fifth, research conducted by Sigit Widodo with the title "Development of Students' Critical Thinking Skills Using the Problem Based Learning Model through Socio-Economic Issues Post the Development of the Jatigede Reservoir in Social Studies Learning at SMPN 2 Wado Sumedang Regency Class VIII C " concluded that the problem-based learning model was chosen because theoretically, and from several research results, it is a learning model that has been successfully applied in learning activities by various scientific disciplines. This model can motivate and increase students' active participation in social studies learning activities, this is because the problems presented are in accordance with the surrounding environmental conditions and those experienced by students. Apart from that, the problem-based learning model can encourage students' critical thinking skills to provide solutions to solve these problems in a multidisciplinary manner. In this way, social studies learning becomes more communicative so that it can attract students' interest in studying social studies in a more serious and fun way. (Widodo, 2016).

CONCLUSION

Critical thinking skills at the elementary school education level are an important part in creating students who can explore their personal potential in creating a generation that is sensitive to the world around them. In the implementation of the "Kurikulum Merdeka" critical thinking is the basic goal of education, therefore it needs to be supported by students' good cognitive abilities. Critical thinking skills help students to achieve self-actualization in personal and social aspects. "In the curriculum", achieving learning to think critically becomes a challenge, both for teachers and students. Teachers in the "Kurikulum Merdeka" need to encourage their students to think critically by understanding the depth of the essence of what is being studied. Meanwhile, students who are trained to think critically are not only pedagogically capable but must also be sensitive to their surrounding environment.

DAFTAR REFERENSI

- Ali, S. S. (2019). Problem based learning: A student-centered approach. *English Language Teaching*, 12(5), 73–78.
- Bahri, B., Misnah, M., Rahmatullah, R., Asmunandar, A., Tati, A. D. R., Jumardi, J., Jauhar, S., & Kamaruddin, S. A. (2022). Application of Problem-Based Learning Model at The State of 2 Majene First Middle School. *SHS Web of Conferences*, 149, 1008.
- Bean, J. C., & Melzer, D. (2021). *Engaging ideas: The professor's guide to integrating writing, critical thinking, and active learning in the classroom*. John Wiley & Sons.
- Boud, D., & Feletti, G. (2013). *The challenge of problem-based learning*. Routledge.
- Chigbu, U. E., Atiku, S. O., & Du Plessis, C. C. (2023). The Science of Literature Reviews: Searching, Identifying, Selecting, and Synthesising. *Publications*, 11(1), 2.
- Cobb, P. (2016). Ontological innovation and the role of theory in design experiments. In *Design-based Research* (pp. 77–104). Psychology Press.
- Cottrell, S. (2023). *Critical thinking skills: Effective analysis, argument and reflection*. Bloomsbury Publishing.
- Dahl, A. J., Peltier, J. W., & Schibrowsky, J. A. (2018). Critical thinking and reflective learning in the marketing education literature: A historical perspective and future research needs. *Journal of Marketing Education*, 40(2), 101–116.
- Davies, D., Jindal-Snape, D., Collier, C., Digby, R., Hay, P., & Howe, A. (2013). Creative learning environments in education—A systematic literature review. *Thinking Skills and Creativity*, 8, 80–91.

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- Dey, I. (2003). *Qualitative data analysis: A user friendly guide for social scientists*. Routledge.
- Elder, L., & Paul, R. (2020). *Critical thinking: Tools for taking charge of your learning and your life*. Foundation for Critical Thinking.
- Ennis, R. H. (2018). Critical thinking across the curriculum: A vision. *Topoi*, 37, 165–184.
- Entwistle, N. J., & Peterson, E. R. (2004). Conceptions of learning and knowledge in higher education: Relationships with study behaviour and influences of learning environments. *International Journal of Educational Research*, 41(6), 407–428.
- Ertmer, P. A., Ottenbreit-Leftwich, A. T., Sadik, O., Sendurur, E., & Sendurur, P. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computers & Education*, 59(2), 423–435.
- Fink, A. (2019). *Conducting research literature reviews: From the internet to paper*. Sage publications.
- Gamar, M. M., & Tati, A. D. R. (2021). Utilization of ICT-based learning media in local history learning. *Journal of Physics: Conference Series*, 1764(1), 12079.
- Ghufron, S. (2023). The Effect of STAD-Type Cooperative Learning Based on a Learning Tool on Critical Thinking Ability in Writing Materials. *International Journal of Instruction*, 16(1).
- Halpern, D. F. (2013). *Thought and knowledge: An introduction to critical thinking*. Psychology press.
- Haris, H. (2019). *Development of Character Education-Based Learning Devices in Local History Subject*.
- Hartantri¹, S. D., & Amaliyah, A. (n.d.). ANALISIS KEMAMPUAN BERPIKIR KRITIS SISWA PADA MATA PELAJARAN IPS KELAS IV SD NEGERI KEDAUNG BARAT III KABUPATEN TANGERANG.
- Hatisaru, V., & Küçükturan, A. G. (2009). Student views on problem-based learning of 9th grade industrial vocational high school. *Procedia-Social and Behavioral Sciences*, 1(1), 718–722.
- Khoiriyah, U., Roberts, C., Jorm, C., & Van der Vleuten, C. P. M. (2015). Enhancing students' learning in problem based learning: validation of a self-assessment scale for active learning and critical thinking. *BMC Medical Education*, 15, 1–8.
- Klarer, M. (2013). *An introduction to literary studies*. Routledge.
- Kokkidou, M. (2013). Critical Thinking and School Music Education: Literature Review, Research Findings, and Perspectives. *Journal for Learning through the Arts*, 9(1), n1.
- Kong, S. C. (2015). An experience of a three-year study on the development of critical thinking skills in flipped secondary classrooms with pedagogical and technological support. *Computers & Education*, 89, 16–31.
- Lunenburg, F. C., & Ornstein, A. (2021). *Educational administration: Concepts and practices*. Sage Publications.
- Magdalena, I., Aditya, A. M., Muzakia, N. O., & Leonardho, R. (2021). Analisis Kemampuan Berpikir Kritis Siswa Kelas 4 dalam Pembelajaran IPS di SDN Pondok Bahar 02. *Pandawa*, 3(2), 259–268.
- Mäkiö, E., & Mäkiö, J. (2023). The Task-Based Approach to Teaching Critical Thinking for Computer Science Students. *Education Sciences*, 13(7), 742.
- Mogea, T. (2022). STUDENTS' CRITICAL THINKING ABILITY IN ENGLISH TEACHING AND LEARNING. *Jurnal Pendidikan Dan Sastra Inggris*, 2(3), 157–171.
- Moneva, J. C., Miralles, R. G., & Rosell, J. Z. (2020). Problem solving attitude and critical thinking ability of students. *International Journal of Research-GRANTHAALAYAH*, 8(1), 138–149.
- Napitupulu, N. D., Tati, A. D. R., Alim, N., Afni, N., Renaldi, R., & Ratu, B. (2023). Knowledge

- Level of Elementary School Teachers as Supporting Schools Based on Lore Lindu National Park, Central Sulawesi Province. *2nd International Interdisciplinary Conference on Environmental Sciences and Sustainable Developments Education and Green Economy (IICESSD EGE 2022)*, 371–373.
- Paul, R., & Elder, L. (2019). *The miniature guide to critical thinking concepts and tools*. Rowman & Littlefield.
- Raya, M. J. (2012). Exploring pedagogy for autonomy in language education at university: possibilities and impossibilities. In *Competency-based language teaching in higher education* (pp. 119–138). Springer.
- Saravanakumar, A. R. (2020). Life skill education for creative and productive citizens. *Journal of Critical Reviews*, 7(9), 554–558.
- Susanto, A., Qurrotaini, L., & Mulyandini, N. (2020). Peningkatan kemampuan berpikir kritis siswa pada mata pelajaran IPS melalui model controversial issue. *Holistika: Jurnal Ilmiah PGSD*, 4(2), 71–76.
- Taylor, D., & Mifflin, B. (2008). Problem-based learning: where are we now? *Medical Teacher*, 30(8), 742–763.
- Ten Dam, G., & Volman, M. (2004). Critical thinking as a citizenship competence: teaching strategies. *Learning and Instruction*, 14(4), 359–379.
- Terblanche, E. A. J., & De Clercq, B. (2020). Factors to consider for effective critical thinking development in auditing students. *South African Journal of Accounting Research*, 34(2), 96–114.
- Tracy, S. J. (2019). *Qualitative research methods: Collecting evidence, crafting analysis, communicating impact*. John Wiley & Sons.
- Ulfa, T., & Munastiwi, E. (2021). Keterampilan Berpikir Kritis Dalam Pembelajaran Ilmu Pengetahuan Sosial. *Journal of Education, Humaniora and Social Sciences (JEHSS)*, 4(1), 50–54.
- Widana, I. W. (2022). Meta-analysis: The relationship between self-regulated learning and mathematical critical reasoning. *Education. Innovation. Diversity.*, 1(4), 64–75.
- Widodo, S. (2016). Pengembangan keterampilan berpikir kritis peserta didik dengan menggunakan model pembelajaran berbasis masalah (problem based learning) melalui isu-isu sosial ekonomi pasca penggenangan Waduk Jatigede dalam pembelajaran IPS di SMPN 2 Wado Kabupaten Sumeda. *International Journal Pedagogy of Social Studies*, 1(2), 275–288.
- Zhu, Z.-T., Yu, M.-H., & Riezebos, P. (2016). A research framework of smart education. *Smart Learning Environments*, 3, 1–17.