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Analysis of critical thinking skills on the project of strengthening the Pancasila profile of 4th grade students of elementary school

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Abstract

The purpose of this study was to analyze the critical thinking skills of grade 04 Plumbon 03 Public Elementary Schools in the project to strengthen the profile of the Pancasila Merdeka Curriculum and the results of this study are expected to be used as a reference source for research in the field of critical thinking skills of elementary school students. The research method uses a qualitative descriptive research method. data collection techniques use observation, interviews, and documentation while data analysis techniques use the Miles and Huberman model, namely through several processes of data collection, reduction, and presentation. Research time from May to June 2023, location in Bulu Hamlet, Plumbon, Mojolaban, Sukoharjo. This study used observation, interview, and documentation methods involving all 9 grade IV students and 1 class teacher. The results of the study can be concluded that the critical thinking skills of fourth-grade students at SD Negeri Plumbon 03 in the Pancasila Student Profile Strengthening Project (P5) are high because they have mastered the five indicators of critical thinking skills, namely observation, analysis, evaluation, inference, and explanation. This can happen because it is supported by factors of critical thinking skills, namely basic cognitive abilities, experience, interpersonal skills, educational and social environment, and the ability to manage emotions.

Keywords*: critical thinking skills, projects to strengthen Pancasila student profiles, elementary schools.*

INTRODUCTION

Education is part of a nation's efforts to continuously improve the quality of human resources and efforts to educate the nation's life so that it is able to face the times (Herlina et al., 2022; L. Jannah et al., 2023; Rajagukguk, 2013). The 5C 21st century skills are the main reference for education in Indonesia, namely *communication* (communication), *collaboration* (*collaboration*) *creativity* (creativity), *critical thinking* (critical thinking) and *character* (character) in today's learning (Insyirah et al., 2022; Mursid et al., 2022, Ilham, et al., 2020).

By mastering critical thinking skills, students are expected to solve complex problems, think independently, and make the right decisions.

There are seven main skills that students must master to develop critical thinking abilities, namely the ability to identify problems, formulate arguments, examine arguments, make decisions, use concepts, integrate knowledge, and design problem solving (Ennis, 1996). Then from these seven abilities, the following critical thinking indicators are obtained:

1) Observation, identifying problems;
2) Analyze, question assumptions, reveal facts needed in solving a problem;
3) Evaluation, evaluating or selecting logical, relevant and accurate arguments;
4) Inference, drawing logical conclusions; and
5) Explanation, communicating thoughts clearly and effectively.

The benefits of critical thinking skills are also diverse as the opinion of experts, namely, improving problem solving skills, improving argumentation skills, improving analysis skills, improving understanding skills, and improving adaptability (A. Jannah, 2021; Juraidah & Hartoyo, 2022; Linda & Lestari, 2019; Sudarmin, 2016).

To achieve these benefits, a critical thinking-based learning approach also

involves the use of active and studentcentered teaching methods, so that students can be actively involved in the learning process and have direct experience in using critical thinking skills (Sari & Prasetyo, 2021; Sarwanto et al., 2021; Yulianti Rahayu et al., 2019).

In the world of education, the curriculum is fundamental, a foundation, and an inseparable part of education (Ahmad Rizal et al., 2023). According to (Taufik & Firdaus, 2021) *the curriculum is the sum total of* school*'s efforts to* influence *learning, whether in* the classroom, on the *playground, or out of school*. A similar opinion is also conveyed by (Mansell et al.,2001) which views that the curriculum is *all activities* provided to students under the responsibility of the school (*all of the activities that are provided for the students by the school*). Therefore, it can be concluded that the curriculum is a written plan that is prepared to facilitate the teachinglearning process, the curriculum is not something that is single (Andriyani & Hernawan, 2019).

Meanwhile, the Merdeka Curriculum is a curriculum concept introduced by the Indonesian Minister of Education in 2021 which aims to provide freedom to education units to develop the curriculum according to the needs and characteristics of each region, school, and student (Ministry of Education and Culture Ristek, 2021) . The implementation of Merdeka Curriculum offers essential material and the development of learner competencies according to the stage of child development. Educators can teach according to the performance and development of students but are still given guidance by the Ministry of Education and Culture (Baro'ah et al., 2023; Ningsih et al., 2022).

In the Merdeka Curriculum, character education is an important focus as outlined in the Pancasila Student Profile Strengthening Project (P5) with the hope of realizing Pancasila Students (Karlina & Dewi, 2016; Khoirillah et al., 2022; Putri Ayu, 2022). Pancasila learners are the realization of Indonesian students as lifelong learners who have global competence and behave in accordance with the values of Pancasila (Fajriansyah et al., 2023).

The Merdeka Curriculum began to be implemented at the 1st and 4th grade elementary school level, with the P5 project expected to develop moral values, ethics, and good personality in students (Fahlevi, 2022).

This research was conducted at SDN Plumbon 03, Mojolaban District, Sukoharjo Regency, Central Java. SDN Plumbon 03 was chosen as the research location because this school is one of the schools that implements the Merdeka Curriculum and has activities to strengthen the Pancasila profile in it to train critical thinking skills. This research will focus on grade 04 students because in this class, students already have sufficient basic abilities to develop critical thinking skills.

The Pancasila Learner Profile Strengthening Project requires elementary school teachers to choose at least two project themes that are developed into 2-3 topics in one school year as stated in the P5 Project guidelines by the Ministry of Education and Culture (Ministry of Education and Culture Ristek, 2021) . The theme chosen by grade 04 of SDN Plumbon 03 is the theme of entrepreneurship and sustainable lifestyles and is followed by all grade 04 students.

The Pancasila Student Profile Strengthening Project on the theme of entrepreneurship has been carried out by class 04 of SDN Plumbon 03 three times in one school year, carried out in the odd semester and all three are businesses in the food sector, namely burgers, ice cream, and fruit juice.

Project activities are carried out for 21 days, the first week begins with an understanding of students about economic activities, namely production, distribution, and consumption. activities continued the following week, namely production preparation, class 04 students discussed with the teacher what they were selling and the materials used in the production process, at this stage the class teacher acted as a project planner and moderator. The next activity is the production process or product making. At this stage of product making, the teacher accompanies and facilitates students. Next is the distribution stage, students distribute

products that have been produced in the school environment with the target of selling school residents. Production and distribution activities are carried out in the third week or day 21.

In the first P5 project activity, class 04 produced burgers, then in the next project made ice cream, and the last was fruit juice. Of the three entrepreneurial-themed projects that have been carried out by class 04 of SDN Plumbon 03, all of them have resulted in profit or profit. The project is in accordance with the IPAS subject, because it explains the economic process which is in the IPAS material, namely entrepreneurship.

The researcher has made observations to the homeroom teacher of class 04 and it is known that the value of the IPAS lesson of class 04 SDN Plumbon 03 is an average of 90. The value is classified as high because it is in accordance with the category of criteria for achieving learning objectives (KKTP), which is in the interval 86%-100%, which is considered that students have achieved learning objectives. From the success of the project and the scores obtained by students, researchers want to analyze how the critical thinking skills of grade 04 students of SDN Plumbon 03 in the form of observations when students carry out activities to observe, analyze, evaluate, and make conclusions on the P5 project.

The analysis of critical thinking skills in grade 04 students of SDN Plumbon 03 is very important to carry out, because it can help teachers evaluate the effectiveness of learning and identify parts that need to be improved, as well as to find out how students' critical thinking skills in the Pancasila Student Profile Strengthening Project. So it is expected to provide useful information in future curriculum development and the development of students' critical thinking skills at the basic education level, especially in the context of the Merdeka Curriculum.

RESEARCH METHODS

This research uses descriptive qualitative research methods. The descriptive qualitative research method is a method based on a constructive philosophy used to research natural objects, where the researcher is a key instrument, data collection techniques are triangulated (a combination of observation, interviews, and documentation), the data obtained tends to be qualitative data, data analysis is inductive or qualitative, and qualitative research results can be findings of potential or problems, the uniqueness of objects, the meaning of events, processes and social interactions, certainty of data truth, and hypothesis findings (Sugiyono & Lestari, 2021) .

This type of qualitative research conducted by researchers aims to describe a phenomenon or event by collecting data through observation, interviews, and documentation.

The data analysis technique used in this research is the Miles and Huberman model, namely through several processes of data collection, data reduction, data presentation, and data withdrawal. According to Miles and Huberman, data analysis is the process of systematically searching and compiling the data obtained and then drawing conclusions so that it is easily understood by oneself and others and is continuous until it is complete (Yunus, 2020).

RESULTS AND DISCUSSION

The data from this study are in the form of descriptive analysis of the critical thinking skills of fourth grade students on the Pancasila Student Profile Strengthening Project obtained through observation, interviews, and documentation on May 27, 2023 to June 15, 2023 at SD Negeri Plumbon 03 with the resource person of the class teacher and all fourth grade students totaling 9 people.

Based on this research, the focus of the discussion of critical thinking skills is limited to 5 indicators, namely observation, analysis, evaluation, inference, and explanation. The results of this study are then presented by grouping according to the results of observations, interview results, and documentation results based on these 5 indicators which are then explained descriptively and according to the findings of the facts that occurred during the research.

The following are the results of the research obtained:

1. Observation Results

Observations were made by researchers on May 29, 2023 to June 3, 2023 when the P5 project took place in class IV of Plumbon 03 State Elementary School. Researchers made observations using observation sheet instruments in the form of checklists accompanied by notes that had been adjusted to 5 indicators of critical thinking ability. Based on the observations that have been carried out, the results obtained that grade IV students have high critical thinking skills, this can be seen from the fulfillment of the following aspects of critical thinking skills:

a. Observation

The ability of students to make observations can be seen from the instrument sheet of observation items number 1 and 6. Based on observations that have been made, it can be seen that fourth grade students of Plumbon 03 State Elementary School already have observation skills, because they have been able to understand and identify existing problems. When the teacher prepares the P5 project and conveys the project topic, students listen and listen. Then the teacher asked questions to determine the ability of students' understanding of the topic and students were able to answer correctly.

b. Analysis

Students' analytical skills are observed in observation items number 2 and 7 on the observation sheet. In this case, the researcher observes how students analyze the assumptions needed in completing the project. When the teacher explained and gave project directions, students listened carefully, then the teacher asked about the project procedure and its continuation to test students' analytical skills, some students were able to answer questions from the teacher correctly. Based on these observations, it was found that some fourth grade students of SD Negeri Plumbon 03 already have good analytical skills.

c. Evaluation

Observations made in the evaluation critical thinking indicator are students' ability to evaluate solutions and arguments that are logical, relevant, and accurate. This is contained in the observation sheet observation items number 3 and 8. When the project takes place the teacher asks questions to each student about why he chose the solution, then all students are able to provide logical and reasonable arguments, then there are 3 students who after evaluating still ask because they need validation from the teacher. even so all students succeed in evaluating and answering the teacher's questions. Based on the results of these observations it can be seen that all fourth grade students of SD Negeri Plumbon 03 have evaluation skills.

d. Inference

When the project takes place all students are able to conclude the P5 project procedure so that students are able to complete the project correctly. Based on the results of these observations, it can be seen that fourth grade students of SD Negeri Plumbon 03 already have inference skills.

e. Explanation

Observations made on explanation skills are students' ability to communicate thoughts clearly and effectively. This is contained in observation items number 5 and 10 on the observation sheet. Based on the observations of researchers, all students dared to communicate their opinions during the project and delivered the results of their projects in front of the class. This shows that fourth grade students of SD Negeri Plumbon 03 have the ability to explain.

2. Interview Results

Interviews in this study were conducted once to the teacher and once each to all fourth grade students totaling 9 people. Interviews were conducted on June 5, 2023 to June 10, 2023 at SD Negeri Plumbon 03 when school was over so as not to interfere with the learning process. Interviews were conducted alternately so as to reduce the risk of similarity in interview answers. The following are the results of teacher and

student interviews that have been processed by researchers by grouping them based on 5 indicators of critical thinking skills:

a. Observation

Interviews with teachers regarding students' observation skills were carried out by asking questions in the form of students' understanding skills "Do you see any progress in students' understanding of a topic or problem?" with the acquisition of answers: "*With this P5 project, it is easier for students to understand by seeing or doing directly what they are doing.*" (Class teacher, June 2023).

This is in line with the results of interviews with average students when asked questions about understanding related to the P5 project which states that students already understand the P5 project and are even able to mention examples of projects that have been carried out in detail.

"*Yes, I have done P5 projects such as making savings to save money, waste bank, and making burgers to sell at market day*" (fourth grade student, June 2023).

Then the researcher asked questions about students' understanding of the topic in the form of: "During the P5 project, did you understand the topic or explanation given by the teacher?" All nine students answered that they understood the topic and explanation from the class teacher.

"*Yes, I understand what the teacher says*" (class IV student, June 2023). Based on the results of interviews conducted by researchers to teachers and students, it can be obtained that all fourth grade students of Plumbon 03 Elementary School have observation skills.

b. Analysis

The identification of students' analytical skills is that students are able to analyze the assumptions of facts needed in problem solving. In an interview with the teacher, a question was asked about students' analytical skills "Do you see any progress in students' ability to analyze?" then the following answers were obtained: "*Yes, I see the development of students' analysis, especially becoming more skillful and structured when doing P5 projects and also in other subjects*." (Class teacher, June 2023).

This shows that there is a development of students' analytical skills not only in the P5 project but also during other lessons. The researcher interviewed students' analytical skills by giving real questions and modeling cases for easy understanding, as follows:

1) "Were you able to take action on your own to do the P5 project after being explained by the teacher?"

Answer: "*Yes, I understand and can complete the project by myself.*" (fourth grade student, June 2023).

2) "If a friend asks you about your action or solution for the P5 project, are you able to explain to your friend how to solve it?" Answer: "*yes, I can explain to my friend how to solve it until he understands.*" (fourth grade student, June 2023).

From the first question, the average student answers that they are able to take their own actions to do the P5 project, it means that students are able to analyze their actions to make project completion decisions. then the answer to the second question, the average student answers that they are able to explain to their friends who ask about the solutions or actions they take. It shows that students are able to analyze their actions.

c. Evaluation

Students' evaluation skills are seen from how students engage in projects and evaluate solutions with logical arguments. In this case, the researcher asked the teacher with questions about the development of students' ability to choose arguments or answers to each question, then obtained the following results:

"*yes, I see the development of students becoming more skillful in choosing and explaining their arguments*" (class teacher, June 2023).

This shows that with the P5 project, evaluation skills are developed. Students become more skillful in choosing arguments and explaining them to others. Meanwhile,

based on the results of interviews with students, the following results were obtained:

1) "When Project P5 was conducted, were you actively involved in it?"
   Answer: "*Yes, I was actively involved and understood the purpose of the project*" (grade IV student, June 2023).
   "*I actively discuss with friends but ask the teacher few questions because usually I already understand what is conveyed*." (fourth grade student, June 2023).
2) "Can you explain logically to your friend who doesn't know about the project?"
   Answer: "*yes, I can explain it logically*" (fourth grade student, June 2023).

   Then there are three students with different answers, namely:
   (a) "*I usually ask the teacher before answering the question logically*." (Alifa, grade IV student).
   (b) "*I can explain logically but I need to ask the teacher to be sure.*" (Fatmawati, grade IV student).
   (c) *"Before answering, I usually ask the teacher for the logical reason so that my friends understand.*" (Inka, grade IV student).

d. Inference

Students' inference skills are seen from their ability to draw logical conclusions. An interview with the class teacher was conducted by asking questions about the development of students' decision-making skills so that the following answers were obtained: "*Yes, students can make decisions and conclude what they do during the project and outside the project, such as concluding observations during the project and concluding answers to questions outside the project.*" (class teacher, June 2023).

Based on interviews with class teachers, it can be seen that students have been able to logically conclude observations during the project. Then the researcher conducted interviews with students about how the conclusion of students' thinking after the project and the researcher asked students to conclude the perceived benefits of the P5 project so that the average answers were obtained as follows:

"*I feel the difference from grade 3 before the project and feel a lot of benefits, I became more creative and enthusiastic about learning because learning turned out to be fun.*" (fourth grade student, June 2023).

Looking at the results of the student interview, it can be seen that students are able to infer differences in their way of thinking and infer the benefits felt after the P5 project is implemented. Based on the results of teacher and student interviews that have been described, it can be seen that fourth grade students of SD Negeri Plumbon 03 have good inference skills.

e. Explanation

The explanation ability possessed by students can be seen from the identification of students being able to communicate thoughts clearly and effectively. In the interview to find out students' explanatory skills, the researcher used the question to the teacher "Do you see any progress in students' ability to communicate their thoughts clearly and logically?" then the following answers were obtained:

"*More and more, I find that students' behavior and thinking become more open because they often communicate with friends and teachers about their arguments. They do not hesitate to ask questions and express their opinions reasonably.*" (class teacher, June 2023).

The results of the interview with the teacher show that there is a development of students' explanation skills, students' communication skills can develop one of them because they often communicate with friends and other teachers during projects so that students are more open and able to communicate their arguments reasonably.

The researcher then conducted interviews with students by asking questions about their ability to present and explain the projects they had made in front of the class to their friends. The average interview answers of the fourth grade students were:

"*I dare to explain and deliver my project in front of the class*" (class IV student, June 2023).

It shows that students are able to provide explanations and convey their arguments in front of their friends. Based on the results of interviews conducted with teachers and students on students' explanatory skills, it can be obtained that fourth grade students of SD Negeri Plumbon 03 have good explanatory skills.

3. Documentation Results

Judging from the results of the P5 project with the dimensions of critical reasoning, it shows that students' thinking skills are good. The following are the results of projects that have been carried out in class IV SD Negeri Plumbon 03:

Table 1
(Project Result P5)

Theme	Topic	Dimensions	Results
Entrepreneurship making burgers	Critical reasoning	Asking questions to identify a problem and confirm understanding of a problem about himself and his environment.	All project groups of grade IV students successfully earned a profit.
Entrepreneurship making ice cream	Critical reasoning	Collect, classify, compare and select information and ideas from various sources	All project groups of grade IV students successfully earned a profit.
Entrepreneurship making fruit juice	Critical reasoning	Explain relevant reasoning in problem solving and decision making	All class IVs made a profit

Discussion

Based on the results of observations, interviews, and documentation that have been carried out in this study, the critical thinking skills of all fourth grade students of SD Negeri Plumbon 03 in the P5 project are high because all students have fulfilled the five indicators of critical thinking. Students have been able to observe, analyze, evaluate, infer, and explain well the problems and solutions they take during the P5 project.

Judging from the observation indicators, students can understand and identify existing problems. This is evidenced when given questions by the teacher regarding the topic discussed, students are able to answer them. Then the interview results show that students can understand information from the teacher. These results are in line with Yulianti's opinion which states that observation ability is the ability to understand the information and data obtained, this ability is the basis of critical thinking that must be possessed by students (Yulianti Rahayu et al., 2019) .

Then seen from the analysis indicator, students can analyze the assumptions they use to complete the P5 project. This was evidenced when students were able to answer the teacher's questions regarding the project procedure they used. The interview results show the development of student analysis. And the results of P5 documentation show the same thing, the ability to reason critically in the second dimension of the P5 project has been mastered by students, namely the ability to analyze. In accordance with the opinion of Sarwanto, Analysis is the ability to break down information classify, compare, and select information into smaller parts and examine the relationship between these parts (Sarwanto et al., 2021).

Furthermore, seen from the evaluation indicator, it is known that students can make decisions. Students are given questions to evaluate their decisions and are able to provide logical arguments. This is the same as

the interview results which show that students become more skillful in choosing and explaining their arguments. In line with Robbert Ennis who stated that evaluation is an activity that must be mastered by students to have critical thinking skills (Ennis, 1996).
Facione revealed that evaluation is the ability to make decisions and take action based on information that has been analyzed (Facione et al., 1996).

Judging from the inference indicator, students can draw conclusions based on the observations that have been made. Experts reveal that inference ability is a major component of critical thinking ability. (Sarwanto et al., 2021) revealed that students' inference ability can be seen when students are able to complete their own projects correctly and conclude them. The results of the interview also showed the same thing, it was even known that students felt many benefits when doing the P5 project compared to before the P5 project.

Then seen from the explanation indicator, students can provide explanations and convey their arguments in front of the class. Explanation ability is the ability to provide reasons or arguments that support opinions or decisions that have been taken (Sarwanto et al., 2021) . The results of the interview stated that students were more open and confident in expressing their arguments logically, they did not hesitate to ask questions and argue with the teacher. This is in line with the benefits of critical thinking stated by Ennis, namely increasing adaptability, By thinking critically, students can develop the ability to adapt quickly in changing situations (Ennis, 1996). Students' behavior and thinking are increasingly open because students have adapted to their educational environment.

The five indicators of critical thinking ability can be mastered by all fourth grade students of SD Negeri Plumbon 03, this can occur due to several factors revealed by experts, namely the basic cognitive ability factor (Halpern & Dunn, 2021), experience (Paul et al., 2002) , interpersonal skills, educational and social environment (Facione et al., 1996) , and the ability to manage emotions (Ennis, 1996) .

Students' basic cognitive abilities are language, memory, and problem solving. Based on the research conducted, it is known that students already have these abilities. Meanwhile, in the experience factor, students have experience because students' problem solving is often trained with P5 projects using the *project-based learning* method. Interpersonal factors are also owned by students, it is known from the results of interviews with teachers who reveal that students are getting better at communicating and cooperating with others. Educational and social environmental factors also support students because class IV SD Negeri Plumbon 03 has a pleasant learning atmosphere and supports P5 projects. Furthermore, seen from the ability to manage emotions, students have been able to overcome anxiety, frustration, and strive to stay focused during projects and learning.

CONCLUSION

Based on the results of the research and discussion, the following conclusions can be drawn:

Analysis of critical thinking skills of fourth grade students of SD Negeri Plumbon 03 on the Strengthening Project of the Pancasila learner profile (P5) is high because they have mastered five indicators of critical thinking skills, namely observation, analysis, evaluation, inference and explanation. This can happen because it is supported by critical thinking ability factors, namely basic cognitive abilities, experience, interpersonal skills, educational and social environments, and the ability to manage emotions.

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