Analysis of Students' Critical Thinking Skills Based Project Based Learning Model in the Merdeka Curriculum

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Article Info	Abstract
	Critical Thinking is a 21st century skill that includes critical thinking, creativity, communication, and collaboration. In the Merdeka curriculum, it influences the improvement of students' ability to find information and interpret texts, analyze, evaluate and draw conclusions presented in local wisdom based history learning, so that in the end students can compile projects in the form of papers. The study aims to analyze the use of history learning of local wisdom -based PjBL to improve students' critical thinking skills in the Merdeka curriculum. The approach used in this study is a quantitative approach with a descriptive research type. This approach describes variables as they are with data in the form of numbers, which are then interpreted. The instrument uses test, observation and questionnaires. The sample used was an applied science class of 4 people and an applied social science class of 4 people. The study shows that the results of the critical thinking skills of the two classes have different achievement categories. Applied Science Class with Very Good Category 95 and Quite Good 75-77, while Applied Social Studies Class has a Very Good category with a score of 95 and Good with a score of 90.

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1. INTRODUCTION

The Merdeka Curriculum is a curriculum that emphasizes independence and flexibility for education in implementing the learning process, especially in intra-curricular activities. In learning activities, teachers plan and act with various materials and methods based on the conditions and needs of students. For example, teachers can determine the number of teaching hours and materials taught in odd and even semesters as long as they meet the time allocation for 1 year. For teaching methods, teachers can use a variety of methods on 1 material depending on the differences in increasing children's abilities in achieving learning objectives. In one material, 3-4 methods can be used, such as students who tend to increase their critical thinking skills using the lecture method, there are also students who like contextual-based learning, and there are students who like learning through project assignments. This can be given based on the initial identification of student abilities. So that the use of methods can be used by classifying students' tendencies in increasing interest in learning and increasing knowledge and skills. As for the material, teachers can package the material creatively based on experience and the surrounding environment according to the material in the merdeka curriculum, the material taught does not have to complete the material of 1 book in 1 year, the teacher only presents essential material that is considered to be achieved by students as a whole. The explanation above is relevant to that presented by [1] An interesting feature of the Merdeka Curriculum is that it is flexible, adapted to the conditions and characteristics of the school

environment in question. In the Merdeka Curriculum it is known by using the term phase consisting of 2-3 years. Teachers are given up to one year of time to regulate and implement lesson hours. This condition is expected to be able to give freedom to schools and teachers to innovate.

In the merdeka curriculum, critical thinking skills are strongly encouraged by using various models and approaches. This ability is a high-level ability that guides students to be able to find information, interpret, and conclude. [2] Critical thinking is an interpretation of knowledge in the form of exploring basic information so that accurate and credible data is obtained. This shows that this ability has a very strong influence on how students deal with problems well. The orientation of critical thinking is being able to solve problems. Requires students to think deeply and highly so that mistakes do not occur in decision making.

Some problems in the field that the lack of critical thinking skills is caused by the inappropriate selection of methods used by teachers in the classroom to improve students' critical thinking skills. This causes students to be unaware of wanting to search for, identify correct information, especially in evaluation activities. Furthermore, the low critical thinking skills of students are due to the tendency of teachers to use conventional methods such as lectures and questions and answers. Where only a few students can understand the learning process being carried out. Therefore, this research is very urgent to be carried out because it focuses on exploring in depth the Critical Thinking Skills of Students using PjBL in the Merdeka Curriculum. This study specifically captures students' critical thinking skills through PjBL.

The description of the problem above shows the importance of changing the treatment given to students to improve critical thinking skills through PjBL in the Merdeka curriculum. The results of [3] explain that the implementation of PjBL in the Merdeka curriculum provides many positive impacts, transforming student learning experiences, empowering teachers with flexibility, and creativity, and fostering an environment that values character development and skill acquisition. Such impacts affect Increasing critical thinking, which makes students more flexible in facing learning [4]. Critical thinking skills are learned based on student and teacher decisions in choosing material topics. It is also adjusted to the needs of students that to improve critical thinking must be done with relevant methods such as PjBL. To run PjBL, students will access materials through investigations and discovery of information in the field and the internet. Students themselves are actively involved in project activities to find and solve problems. [5] suggested that the increasing trend of research using the PjBL model can improve problem-solving skills in 21st century education. [6] critical thinking skill is one of the 21st century skills that focuses on the students' ability to classify and solve problems. Good thinking skills are needed so that they can solve problems critically [7]. In critical thinking skills, students must have done problem investigation work, and described the problems that occurred, concluded and compiled the results systematically in the form of reports for evaluation and monitoring. [8] Critical thinking ability is the ability to control one's own thinking to think reflectively and logically to make decisions that one must believe or do.

Critical thinking in the implementation of the Merdeka curriculum can be improved through learning that involves materials in the surrounding environment and the PjBL model, both of which encourage teachers to connect teaching with real-world situations that require students to be enthusiastic about learning and love their work, lead projects individually and in groups, be responsible, and disciplined, socialize with a series of learning activities starting from the presentation of contextual and complex problems. [9] that project-based learning is: supporting, raising students' enthusiasm, and encouraging them to work in groups, following up on their learning patiently, planning projects with considering authentic products that will be accomplished by students and ensuring the availability of proper resources. This allows students to develop critical thinking skills. Through the PjBL model, the Merdeka curriculum can be realized with learning that can be done in class and outside the classroom. Education should not be limited to teaching in class, education must be an open space, wherever and whenever students are [10]. The purpose of this study was to analyze students' critical thinking skills using PjBL in the Merdeka curriculum.

2. RESEARCH METHOD

The approach used in this study is a quantitative approach with a descriptive research type. This approach describes variables as they are with data in the form of numbers, which are then interpreted. The instrument uses test questions, observation and questionnaires. The research was done in SMA KAE Woha of XI Class. The sample used is the applied science class of 4 people and the applied social studies class with a total of 4 people. The test instrument consists of 3 essay questions. The contents of the instrument are interpretation, analysis, and evaluation.The questionare was used scale of 1-5, where very good, good, quite good, not good, very not good.

3. RESULT AND DISCUSSION

A. Critical Thinking Skills Through PjBL Implementation

The implementation of PjBL is supported by the application of a scientific approach in the process of students' critical thinking skills. Like the process of history learning was presented in the following observation below.

1. Determining Basic Questions

Students choose a topic, seek information through the teacher, provoking students to ask questions related to the topic to be studied and how to find information in the project. In this case, the teacher presents basic questions accompanied by visual images related to the questions then students are required to demonstrate observation skills to find information in the questions, like the following image of local wisdom Rimpu below.

Figure 1. Basic Questions of Local Wisdom Based History Learning

2. Compiling Project Planning

Students use their questioning and thinking skills to compile a project plan so that the implementation time is carried out in accordance with the target achievement. The student find more information and study the information about the topik above. Then how many time the student will accomplish the project.

Kegiatan	Deadline	Penanggungja wab
Mengkaji Sejarah kearifan local rimpu, hanta ua pua	14-17 Agustus	Ketua dan Anggota
Merancang gambar dan teks cerita kearifan local yang berhubungan dengan Sejarah perlwanan bima terhadap belanda	17-20 Agustus	Ketua dan Anggota
Melaporkan rancangan	21 Agustus	Ketua dan Anggota
Membuat rangkaian perlawanan indoensia/bima pada belanda	22-25 Agustus	Ketua dan Anggota
Mencatat proses sejarah	25-27 Agustus	Ketua dan Anggota
Membuat laporan hasil pengerjaan	28 Agustus	Ketua dan Anggota
Membuat poster dan presentasi	29 Agustus- 3 September	Ketua dan Anggota

Figure 2. Designing Activities of Project

3. Compiling a Schedule

This activity is carried out to manage data collection time. The schedule is arranged in the form of a table based on the results of the group agreement. In the first week, students compile a project plan and schedule. Then, students in groups conduct observations in all references about history that's relevant with local wisdom and surveys of information excavation locations. The second week, write experiences in project notebooks/journals both per group and per individual. Then conveying the progressive report to the teacher. In the third week, groups can re-excavate information so that data processing stages can be carried out to be included in the paper to do presentation.

Figure 3. Time Schedule of Activities of Project

4. Experience Evaluation

This is done to evaluate students' experiences in social interactions through interviews, surveys, observations, and others in the field according to the theme determined by students and teachers in the initial stage. The evaluation stage is carried out by students and teachers on the results of the project. This is done to find out the challenges and obstacles faced by students in the field. As well as the development of project results. The evaluation process is carried out continuously; Students periodically reflect on the project activities that have been carried out; The final product of the project activity will be evaluated qualitatively. After

students obtain information from sources in the field, then students are asked to analyze by comparing the results of their work with other references on the internet.

5. Testing Results

    Testing results requires students to demonstrate communication skills based on the results of writing reports that are made originally in the form of papers. This shows students' ability to draw conclusions and present the paper based on the results of project assignments.

6. Monitoring

    Monitoring is carried out by teachers to monitor the development of student projects until the end. Is the project carried out in accordance with the project plan and implementation schedule?. Have students processed and compiled the results of the project report?. So that improvements can be made if errors occur in the middle or at the end of the project.

    Based on the stages of PjBL, students' critical thinking skills are in every stage of the model. Both in terms of understanding the problem (interpretation), planning or modeling the solution (analysis), implementing the model or planning the solution and calculation (evaluation), and drawing conclusions (inference). Where at the interpretation stage students are required to understand the problem before carrying out the project task through a good project planning stage. Furthermore, in the analysis aspect, students compare the results of work in the field with various references such as books and the internet. At the evaluation stage, students are required to think critically about the work of other friends so that there are improvements in the results of the next project. Finally, drawing conclusions is done by pouring the project results into a paper as the core result of all observations to interviews.

B.   Students' Critical Thinking Skills Using History Learning of Local Wisdom-Based PjBL

    Students' critical thinking skills using the Project-Based Learning Model on local wisdom-based History material are in the very good, good and quite good categories. The categories of students' abilities can be seen in the figure below.
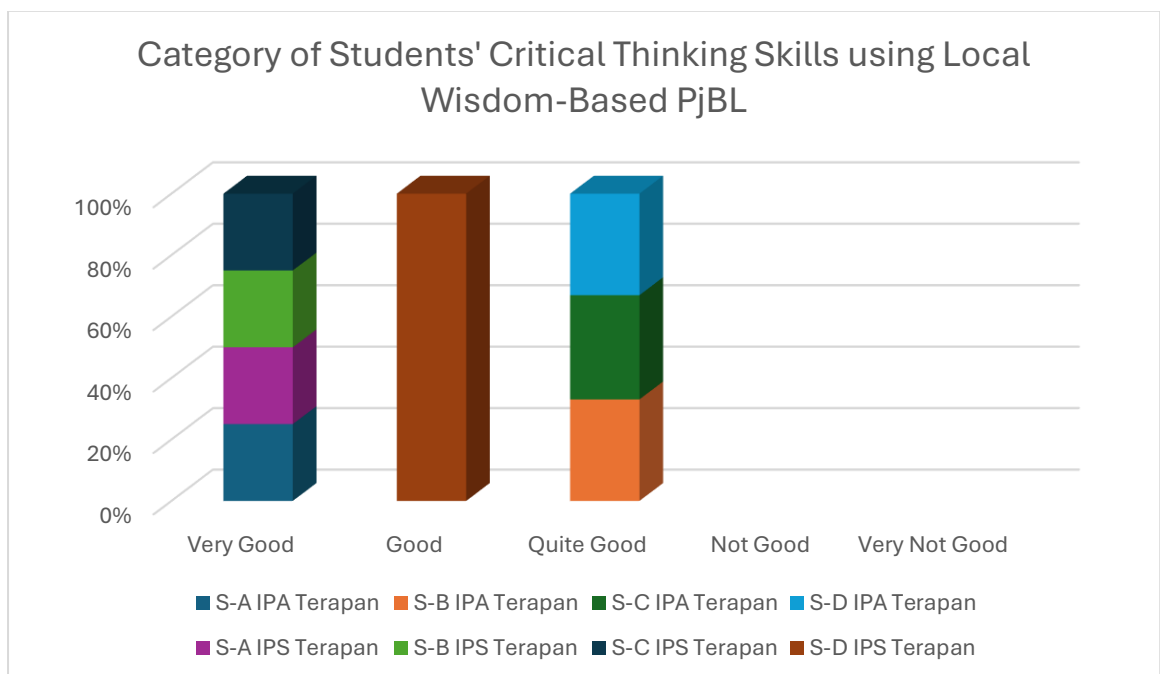

Figure 4. The Student Answer of Critical Thinking by Using PjBL

    The figure above shows that Applied Science students who are in the very good category are Student A with a score of 95, student B is 75 in the Fairly Good category, student C is 77 Fairly Good, and student D is 75 Fairly Good. While Applied Social Studies with the Very Good category are students A, B and C with a score of 95, student D is in the Good category with a score of 90. This means that the critical thinking skills of applied science and applied social studies students are different in terms of category. Although in the applied class there is only 1

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student who reaches the very good category of 95, and 3 students in the fairly good category. In applied social studies there are 3 students in the very good category, and 1 student in the good category.

The results show that students' critical thinking skills using the PjBL model are in the very good, good, and fairly good categories in the aspects of interpretation, analysis, evaluation, and inference abilities. This is relevant to the results of the study by [11] students can identify assumptions by achieving a very good ability category with a score of 92 and students can focus and analyze questions reaching a score of 94 in the very good category. The results of the analysis related to the implementation of PjBL by students and teachers showed very good results. This section is again supported by the results of research conducted by [12] the results of observing teacher activities, student activities, and conducting tests to measure students' critical thinking skills using the PjBL learning model obtained a very good category in cycle II. The next researcher [13] in the results of the study concluded that the project-based learning learning model has many differences and can be used as a reference for teachers to be used as a learning model to determine students' critical thinking skills.

Although the critical thinking skills using the PjBL model have students who have very good and good ability categories, there are limitations to the research conducted by researchers, where project-based learning shows weak student involvement in project work. This is then seen in applied science, there are students who have a fairly good ability category. This is also caused by students who have less tendency to learn through experimentation and information gathering.

4. CONCLUSION AND SUGGESTIONS

The purpose of the study was to analyze Students' Critical Thinking Skills using Local Wisdom-based PjBL in the Merdeka Curriculum. The results of the analysis of 10 students in applied science and applied social studies classes showed differences in ability categories. Applied science classes with a very good category of 95 and quite good 75-77, while applied social studies classes have a very good category with a score of 95 and a good score of 90. Critical thinking skills using PjBL build students' abilities to work independently and in groups, through the process of understanding problems (interpretation) where students understand texts or problems, planning or modeling solutions (analysis), implementing models or planning solutions and calculations (evaluation), and drawing conclusions (inference).

Departing from the results of the research implementation, there are limitations in the study where the number of samples is small so that it does not show great success. Descriptive quantitative analysis does not show optimal results. The suggestion given by the researcher is that teachers can explore various learning strategies and models that are appropriate to the conditions and needs of students, because students have diverse learning styles. Further researchers can identify students' critical thinking skills and do the research in a large number of research samples to determine significant improvements in students from the model used.

5. ACKNOWLEDGEMENTS

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