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Implementation of The PBL Model to Develop Critical Thinking Skills in Learning at SMA Negeri 1 Cililin

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This research is motivated by the findings of problems in economics learning including: in economics learning students are passive; lack of critical thinking activity and creativity; teacher-centered learning (teacher centered); The learning model used by teachers tends to be monotonous. This research aims to determine the implementation of the model problem based learning to develop students' critical thinking skills in economics learning. The research method is a case study with a qualitative approach, data is collected through interviews, observation and documentation of the implementation of learning to develop critical thinking skills. The results of the research show that planning economic learning using models problem based learning to develop highly structured and systematic critical thinking skills. Implementation of economic learning with models problem based learning Overall, it has succeeded in creating a learning environment that supports the development of students' critical and analytical thinking skills. Assessment of economic learning with models problem based learning has been designed and implemented well, so that students' critical thinking, problem solving and collaboration skills develop optimally. Supporting factors for learning economics with models problem based learning really supports the development of students' critical thinking skills. Factors inhibiting economic learning with models problem based learning developing critical thinking skills is a very serious challenge. Efforts to overcome barriers to economic learning with models problem based learning can develop students' critical thinking skills effectively.

Keywords: Model Problem Based Learning, Critical Thinking, Economic Learning

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1. Introduction

Education has a very important role in creating Indonesia's golden generation. Quality education can help individuals as a golden generation who are growing and developing dynamically and actively in forming themselves into Indonesian people with character, intelligence, competitiveness and productivity. According to Dewey (2020), critical thinking is a skill that must be developed through active and reflective learning experiences, where students are directly involved in the problem solving process. Efforts to make these hopes come true require people who are not only intelligent in thinking from memorizing activities, but also intelligent thinking that is formed from a learning process that is based on concrete experience to solve problems and think critically.

One of the trends in thinking that is developing nowadays regarding the learning process for students is that students will learn better if the environment is created naturally. (Ennis, 1989) emphasized that critical thinking is reasoned and directed reflection to decide what to believe or do, and this skill must be taught

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explicitly in the educational curriculum. According to this trend of thinking, learning will be more meaningful if students experience for themselves what they are learning, not just know it. (Bloom, 2001) in his taxonomy of educational objectives places critical thinking at the highest level in the cognitive hierarchy, indicating the importance of this ability in deep and meaningful learning. Learning that is oriented towards mastering material has proven successful in short-term memory competitions but fails in equipping children to solve problems in long-term life. (Hess, 2015) states that critical thinking involves developing analytical skills that enable individuals to evaluate information and arguments logically and systematically. Various efforts to improve education continue to be made, starting from training to improve teacher quality, improving teacher welfare, improving the curriculum, to improving educational infrastructure. Education is a shared responsibility between parents, government and society.

The results of observations and studies that have been carried out on economics learning at SMA Negeri 1 Cililin in July 2023 show that students' interest, motivation, activity and critical thinking skills are not good so they have a negative effect on the results achieved. During learning, students are less enthusiastic about learning, especially for students whose achievements are low; they just listen and pay attention to others without expressing opinions, making comments, or asking and answering questions. Facione (1990) states that critical thinking is a considered and directed thinking process that includes assessment, analysis and evaluation of existing arguments to produce the right decisions. Only a few students have the motivation to learn, and this only applies to students who have high achievements.

Critical thinking is a very essential skill in education. This ability should be developed from an early age so that students have high level intellectual skills. The importance of critical thinking skills was also expressed by Peter in Indira et al., (2018), who stated that students who are able to think critically will be able to solve problems effectively. Swartz & Perkins (2016) also emphasize that teaching critical thinking should be an integral part of all educational programs and should be developed through teaching practices that emphasize dialogue, reflection, and inquiry. Based on the results of interviews with several economics teachers at SMA Negeri 1 Cililin, economics learning still focuses on memorization and giving correct answers according to the textbook rather than developing critical thinking skills, so it is not visible that students develop and link their own thoughts; The student's answer is like just moving the answer in the textbook. This causes students to just know without thinking further.

Meanwhile, based on observations of learning activities, students' critical thinking abilities in economics subjects tend to be low. Halpern (1998) suggests that critical thinking is a skill that can be learned and improved through structured education, where students are invited to think logically, reflectively and creatively in dealing with problems. This can be seen during the learning process, the role of the teacher is more dominant than that of the students. Likewise, in the question and answer session, the questions asked were limited to knowledge questions whose answers were theoretical. As a result, in answering essay questions, students tend to give short and in-depth answers.

Literature Review

The Problem Based Learning model is a learning model that presents problems related to everyday life (authentic/real problems) which can help students' understanding of learning material, so that it can train students to think critically in solving a problem. King & Kitchener (1994) developed a reflective model which shows that critical thinking skills develop through stages, ranging from basic understanding to the ability to evaluate and create complex arguments. The Problem Based Learning model not only teaches academic concepts, but also helps in developing skills and attitudes that are important for success in the real world. Jonassen (2010) states that problem-based learning such as PBL is one of the best methods for developing critical thinking skills because it encourages students to be actively involved in solving complex and authentic problems.

The Problem Based Learning model has the idea that learning can be effective and achieved if learning activities are focused on tasks or problems that are authentic, relevant, and presented in a context. Glaser (1942) defines critical thinking as the ability to recognize problems, gather relevant information, understand underlying assumptions, and make appropriate decisions based on that analysis. Problem-based learning is a learning model that aims to stimulate high-level thinking processes in problem-oriented situations. It was further stated that Problem Based Learning was mainly developed to help students, especially in learning.

The five steps of the problem-based learning model according to Tibahary & Muliana (2018) are as follows:

1) Student orientation to the problem,

2) Organizing students to study,
3) Guiding individual and group investigations,
4) Develop and present the results of the work, and
5) Analyze and evaluate the problem solving process.

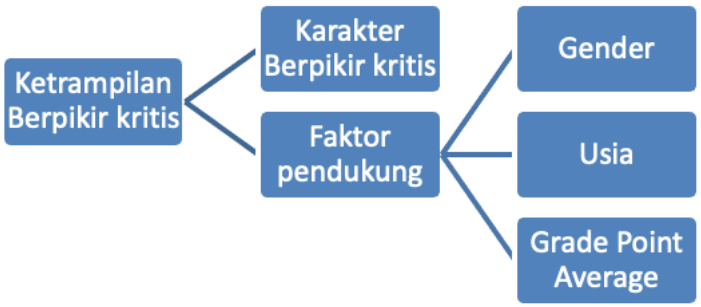
In its implementation, the Problem Based Learning Model is designed to foster critical thinking skills in students by encouraging them to be active in every stage of learning.

Borko & Putnam (2013) added that the implementation stage of the Problem Based Learning model in the Learning Implementation Plan (RPP) consists of the process of orienting students to problems, organizing students, guiding individual and group investigations, developing and presenting results, as well as analyzing and evaluating the process and results of problem solving. Through this process, students are not only trained to memorize information, but also to develop critical thinking skills needed to solve complex problems faced in everyday life.

Critical thinking is the ability to argue in an organized way, which involves evaluating, analyzing and thinking deeply about an opinion or idea. Mamuasi & Tuara (2021) states that the aim of critical thinking skills is to direct students to have high creativity, be able to think and see things from various sides or perspectives, so that their minds are more open in solving problems. This ability helps individuals to better understand the essence of problems and find appropriate solutions, as well as develop a systematic, logical and analytical mindset.

Figure 2.1.

Critical Thinking Scheme and Supporting Factors



Source: Triandis (1980)

In the student learning process, teachers have an important role in shaping students' critical character in dealing with various situations. The ability to think critically of course cannot be obtained instantly, but must be familiarized and instilled well through a structured and continuous learning process. Yazidi (2023) emphasizes that the principles of Problem Based Learning include constructive learning, self-regulated learning, collaborative learning, and contextual learning. This is in line with the demands of the Independent Curriculum which gives autonomy to schools and teachers to adapt learning according to needs, promotes teacher professionalism, and allows them to become more effective learning facilitators.

Learning economics in learning activities in high school not only requires students to understand economic concepts, but also to use scientific methods based on a scientific attitude in solving the problems they face. Therefore, in teaching economics in high school, teachers are asked to develop facts, concepts and principles related to economics, as well as integrate critical thinking skills in the learning process.

The Merdeka Curriculum gives teachers the flexibility to design student-centered learning, which focuses not only on mastering the material, but also on developing the skills needed to face real-world challenges. In this context, the Problem Based Learning Model is a learning method that is worthy of being developed in line with the demands of learning that is oriented towards student-centered learning, which is able to foster a creative, collaborative spirit, metacognitive thinking, and develop high-level thinking abilities.

The Problem Based Learning model not only emphasizes mastery of academic material but also the development of important skills such as critical thinking, collaboration, and problem solving. Triandis

(1980) states that critical thinking is the ability to systematically evaluate the weight of personal opinions and the opinions of other people. This process involves evaluation, analysis and in-depth thinking about an idea or opinion, where a person must make considerations based on the arguments put forward, assess, interpret and evaluate the value and practice of the idea.

Critical thinking skills involve the ability to think logically, reflectively, systematically and productively in making judgments and making good decisions. This includes the use of sound reasoning, in-depth evaluation of information, use of a structured approach, and the ability to generate creative solutions. In the student learning process, teachers have an important role in forming students' critical character in dealing with various situations. Critical thinking, as stated by Borko & Putnam (2013), is a skill that requires habit and must be instilled through a systematic and continuous learning process.

1. The process of student orientation to problems.
2. Organizing students.
3. Guiding individual and group investigations.
4. Develop and present results.
5. Analyze and evaluate the process and results of problem solving.

Table 1

PBL Model Syntax Table

Level	Educator Behavior
Level 1 Student orientation towards problems	Educators explain learning objectives, explain necessary logistical requirements, and motivate students to engage in problem-solving activities.
Level 2 Organizing students to study	Educators help students define and organize learning tasks related to problem.
Level 3 Guiding individual and group investigations	Educators encourage students to gather appropriate information, conduct experiments, and seek explanations and solutions.
Level 4 Develop and present work results	Educators help students plan and prepare work according to reports, videos, and models, and help share their work with friends.
Level 5 Analyze and evaluate processes solution to problem	Educators help students to reflect or evaluate the processes they use.

Source: Borko & Putnam (2013)

Economics learning in high school learning activities is not only aimed at understanding economic concepts, but also at developing critical thinking skills needed to solve problems in everyday life. The Merdeka Curriculum provides autonomy for schools and teachers to adapt learning according to students' needs, promotes teacher professionalism, and allows them to become more effective facilitators of learning. In this context, Burke et al., (2020) emphasizes that problem-based learning is a constructivist learning method that is able to foster critical thinking skills that are essential for student success in the real world.

Problem Based Learning is a learning method that is worth developing in line with learning demands. This is in line with the characteristics of PBL as a student-centered learning method, which is able to foster a creative, collaborative spirit and high-level thinking. Mamuasi & Tuara (2021) explains that the aim of critical thinking skills is to direct students to have high creativity, be able to think and see things from various sides or perspectives, so that their minds are more open in solving problems. This ability helps individuals to better understand the essence of problems and find appropriate solutions, as well as develop a systematic, logical and analytical mindset.

The implementation stage of the Problem Based Learning model involves five main steps mentioned Tibahary & Muliana (2018): Orienting students to the problem, 2) Organizing students to

learn, 3) Guiding individual and group investigations, 4) Developing and presenting work results, and 5) Analyze and evaluate the problem solving process. Implementation of these steps aims to develop students' critical thinking skills, which are important in facing future challenges.

By considering all these aspects, it can be concluded that Problem Based Learning is an effective learning model in developing students' critical thinking skills. King & Kitchener (1994) supports this view by emphasizing that critical thinking develops through stages involving basic understanding to the ability to evaluate and create complex arguments. Therefore, it is important for educators at SMA Negeri 1 Cililin to adopt this learning model to improve the quality of education and produce a generation that is more critical, creative and ready to face challenges in the real world.

2. Method

This research was conducted with a Qualitative Approach using the Case Study research method (*case study research*) and is descriptive. The data obtained was processed using qualitative methods, with inductive/qualitative data analysis. The results of this qualitative research emphasize meaning rather than generalization.

The instrument of this research is the researcher himself *(human instrument*) as the main instrument that is directly involved in the field (research location) to search for and collect the necessary data. The instruments used are interviews, observation, documentation. Before conducting interviews and observations, a grid of interview and observation guidelines is prepared so that they are focused, but at a practical level they are developed according to the situation in the field. This is intended to give researchers freedom to capture various interpretations of the learning process, so that researchers obtain accurate data information in research. The informants in the interviews included: Principal, Deputy Principal for Curriculum, Economics Teacher and Students of SMA Negeri 1 Cililin Classes X and XI, both male and female.

The data collection technique in this research adheres to the opinion of Sugiyono (2023), namely through:

1. Literature study: searching for literature related to the problem, such as reference books and current legislation, and journals related to the problem
2. Observation Guidelines (make observation guidelines to focus on the things being observed)
3. Interview Guidelines, (make open interview guidelines, so you can dig up in-depth information about the problem, or Questionnaire, (make questions related to the problem)
4. Documents, (collect documents obtained from economics teachers, school principals, deputy principals, and students)
5. Daily observation notes as proof of carrying out a learning project (notes, recordings, photos, videos, etc.)

According to Yin (2003) the data analysis stages in case study research involve several key steps designed to ensure the integrity and validity of the data. Data analysis stages that you can apply according to Yin's view:

1. Diverse Data Collection: Data was collected from classroom observations, interviews with teachers and students, as well as analysis of documents related to the curriculum and learning outcomes.
2. Categorizing and Coding Data: Once the data is collected, the next step is to categorize and code the data. use of coding to identify main themes emerging from the data. For example, in this research, you can code data related to indicators of critical thinking skills that develop through the application of the Problem Based Learning (PBL) Model.
3. Building an Explanation: At this stage, the researcher builds an explanation that explains how and why the PBL model has an impact on the development of critical thinking skills. Yin emphasized the importance of developing explanations that fit the theoretical framework used in the research.
4. Conduct Time Sequencing Analysis: time sequence analysis to understand the sequence of events and how various factors influence each other in the context of the case study. In this research, you can analyze how PBL implementation develops over time and how it impacts students' critical thinking skills.
5. Comparing with Patterns: comparing findings with expected patterns based on theory or previous literature. In this research, you can compare the results with theories about PBL and critical thinking skills.
6. Data Triangulation: using multiple data sources to ensure the validity of findings. In this research, you

can verify the findings from observations with interviews and other relevant documents.

7. Drawing Conclusions: The final stage is drawing conclusions that can answer the research questions. This conclusion must be based on the analysis that has been carried out, and must be relevant to the research objectives, namely how the PBL model can develop students' critical thinking skills at SMA Negeri 1 Cililin.

By following the stages above, it ensures that data analysis in this case study research is carried out systematically and reliably.

3. Results & Discussion

Planning the Economic Learning Process using the Problem Based Learning Model to Develop Critical Thinking Skills

The planning of the economics learning process at SMA Negeri 1 Cililin is very structured and in accordance with the national curriculum. This includes the preparation of annual (Prota) and semester (Promes) programs, syllabus, RPP/Teaching Modules, which are prepared in accordance with the national curriculum and local needs. This planning is supported by activities such as IHT and MGMP, which ensure that teachers are able to design and implement effective learning. This is in accordance with the opinion of Nadlir (2016) which states that learning planning is the process of compiling lesson materials, using media and learning methods, as well as assessment within a certain time allocation to achieve predetermined goals. (Heer, 2012) emphasizes the importance of formative and summative assessments in measuring student understanding and adjusting learning programs based on evaluation results. Sanjaya & Sanjaya (2008) also stated the importance of learning planning to help teachers determine goals, choose the right strategy, and prepare the necessary resources. Bloom (2001) emphasizes that good planning must include taxonomic components of educational objectives, especially at the level of critical thinking, which is the main target of the Problem Based Learning Model.

Implementation of the Economic Learning Process using the Problem Based Learning Model to Develop Critical Thinking Skills

The results of interviews, observations and documentation show that the Problem Based Learning model has been implemented in economics learning at SMA Negeri 1 Cililin. This process includes apperception activities, explanation of learning objectives, and group formation to encourage discussion and investigation. Arends (2008) suggests that the Problem Based Learning model is effective in training students to think critically through the authentic problems they face. Jonassen (2010) adds that student involvement in real-world problem solving facilitates the development of critical thinking skills, while Seng (2004) emphasizes the importance of contextual teaching to maximize the effectiveness of Problem Based Learning. Hmelo-Silver (2004) also supports the use of PBL by stating that problem-based learning gives students the opportunity to think more deeply and critically about the information they obtain, which is in line with the findings that students at SMA Negeri 1 Cililin showed increased courage to participate and share their thoughts.

Assessment of Economic Learning using the Problem Based Learning Model to Develop Critical Thinking Skills

Assessment in Problem Based Learning-based economic learning at SMA Negeri 1 Cililin involves assessing learning processes and outcomes, including formative, summative, performance, rubrics, and self and peer assessments. Wiggins & Tighe (2005) state that good assessment must include various methods to measure all aspects of learning, especially in developing critical thinking skills. Facione (1990) emphasizes the importance of assessments that focus on students' abilities to analyze and evaluate information in the context of problem solving. Brookhart (2010) also suggests that performance assessments and rubrics can provide constructive feedback to students, which helps them become more reflective and critical.

Supporting Factors for Implementing the Problem Based Learning Model

Supporting factors include support from MGMP, regular training, adequate learning facilities, as well as support from the school principal and parents. (Hmelo-Silver, 2004 emphasizes the importance of facilities and institutional support in the successful implementation of PBL. Arends (2012) and Savery (2006) also highlights the role of school principals in monitoring and providing technology training that supports the implementation of PBL. However, there are several obstacles such as limited information technology, low interest and motivation to learn, and suboptimal time management Ertmer & Ottenbreit-Leftwich (2010) highlight the importance of technology readiness in supporting problem-based learning, while Schraw et al., (2006) identifies motivation as. key factors in the success of PBL. Zimmerman & Zimmerman (2010) emphasize that time

management is a challenge in problem-based learning, because it requires sufficient time allocation for in-depth discussion and reflection.

Efforts to Overcome Barriers in Economic Learning with the Problem Based Learning Model

Efforts to overcome obstacles in implementing Problem Based Learning involve teacher discipline, forming cohesive groups, as well as support from school principals and parents. Dweck (2015) emphasizes the importance of teacher mindset in encouraging students to think critically and work together in groups. Chappuis & Stiggins (2002) shows that post-learning reflection is an effective way to evaluate the success of the learning process and provide useful input for future improvements. Hosnan (2014) emphasizes the need for commitment from all parties to create a supportive and positive learning environment, which can significantly improve students' critical thinking skills.

The expert opinion above provides strong theoretical support for the implementation of the Problem Based Learning Model at SMA Negeri 1 Cililin, by emphasizing the importance of careful planning, structured implementation, comprehensive assessment, and adequate institutional support to overcome various existing obstacles.

4. Conclusion

Economic learning planning with models *problem based learning* to develop critical thinking skills includes the preparation of annual (Prota) and semester (Promes) programs, syllabus, lesson plans/teaching modules, enrichment and remedial programs very structured and systematic because prepared in accordance with the national curriculum and local needs. Following professional training such as IHT and MGMP has an important role in learning effectiveness. Integration of critical thinking skills and *problem based learning* aims to develop students' analytical abilities, supported by enrichment and remedial programs to achieve holistic educational goals.

Implementation of economic learning with models *problem based learning* Overall, it has succeeded in creating a learning environment that supports the development of students' critical thinking skills.

1. Assessment of economic learning with models *problem based learning* can develop students' critical thinking skills through assessing the learning process and assessing learning outcomes
2. Supporting factors for learning economics with models *problem based learning* includes school principal support which includes activating learning communities, providing training, facilities, monitoring, encouraging the use of information technology, and ensuring student discipline.
3. Factors inhibiting economic learning with models *problem based learning* in developing critical thinking skills includes information technology obstacles such as unstable internet connections and students' lack of adaptation to technology.
4. Efforts to overcome barriers to economic learning with models *problem based learning* includes the application of discipline by teachers, management of student discipline, full support from the principal in the form of facilities and professional development for teachers, as well as interactive and proactive learning strategies from teachers to increase student interest and motivation

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