

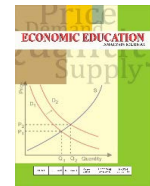


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Problem Based Learning Model Analysis in Improving Student's Critical Thinking Ability

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Abstract

This research aimed to determine the level of critical thinking skills of Economic Education students at Universitas Lampung in the 2021/2022 academic year through a problem based learning model. The ability to think critically is one indicator of intelligence that must be possessed by every individual in facing the era of society 5.0, in an effort to respond to various challenges in the midst of social life. The population in this study were 256 students with a sample size of 144 students, which was obtained by using the Isaac-Michael formula. Methods of data collection used questionnaires, documentation, and interviews. Based on the results of the study, it was found that there was an effect of applying the problem based learning model on increasing students' critical thinking skills, which was 66.5% and the rest was influenced by other factors.

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INTRODUCTION

Education is an effort to improve the quality and potential of individuals through a series of processes. Education is one part of the national development process that has an important role in improving the quality of human resources, because human resources are the driving force of national development. Education is one of the efforts made to change human behavior both individually and in groups in an effort to mature humans through teaching and training (Sugihartono, 2007: 3).

Education is carried out in the shape of teaching and learning activities that refers to the curriculum. During the implementation of the learning process in higher education, of course there is interaction between lecturers as educators and students. Optimal learning will be created when students can interact with other learning components optimally in order to achieve learning objectives. The learning components are learning objectives, learning materials, learning methods or strategies, learning media, and evaluation (Sanjaya, 2011: 59).

Through a series of educational processes, students are expected to have three aspects of abilities listed in Bloom's Taxonomy, namely cognitive, affective, and psychomotor abilities. One of the abilities of the cognitive domain is the ability to think critically. Someone who holds a degree as a student should have the ability to think critically from a series of higher education.

Critical thinking ability is a high-level thinking ability possessed by a person by providing an organized reason and evaluating the quality of a reason systematically and deciding on a solution or solution to a problem. Ennis in Husnidar (2014: 73) stated that critical thinking ability is a thinking process that aims to make rational decisions that are directed to decide whether to believe or do something.

The importance of teaching and developing critical thinking skills must be seen as something urgent and cannot be underestimated. Mastery of critical thinking skills is not enough to serve as a mere educational goal,

but also as a process that allows students to cope with the future. According to Ennis in Fisher (2008: 4) critical thinking is reasonable and reflective thinking that focuses on deciding what to believe or do. Critical thinking skills possessed by students can be obtained through a series of learning processes that are able to encourage and improve these abilities. During the implementation of the learning process so that these goals are achieved, it is necessary to have a learning model that is clearly able to develop these abilities,

Problem based learning is a learning model that focuses students as learners to be active and think critically in solving a problem. According to Arends (2008: 43), Problem Based Learning (PBL) can help students to develop critical thinking skills and problem solving skills, learn the roles of adults and independent learners. This is also supported by research conducted by Dyas (2012) which stated that the use of the PBL (problem based learning) model can improve critical thinking skills, especially in indicators of problem definition and clarification.

Economic Education students at the Universitas Lampung are students who are currently pursuing higher education. During their education process, they are definitely required to have good critical thinking skills in order to improve the quality of students and graduates. Various courses that have been, are being, and will be taken by students always demand to have and practice students' critical thinking skills. In the study, Graaff and Kolmos (2003: 660) stated that PBL is based on the background, expectations, and interests of students. It is very common when students are more motivated and work harder with PBL than with traditional teaching methods. The advantages of PBL are: (1) students are involved in learning activities so that their knowledge is really well absorbed, (2) students are trained to be able to work together with other students; and (3) students can gain knowledge from several sources.

The application of the PBL learning model has been used in several courses in the

Economics Education Study Program. Generally, the lecturers who support courses carry out the learning steps carried out including; (1) The lecturer provides lecture material according to the semester learning plan that has been designed. This is necessary so that the learning objectives can be achieved. Then the lecturer will give an assignment or a problem that must be solved. (2) The lecturer provides opportunities for students in groups to observe in the field. (3) The lecturer compiles the results of observations by answering questions in student worksheets. (4) From the observations, real problems about a case are obtained, (5) Solves problems encountered in groups. (6) The lecturer discusses, exchange knowledge, exchange learning resources to determine appropriate solutions to existing problems. (7) Drawing conclusions 8. Evaluation.



Figure 1. Stages of Problem Based Learning
Source: Primary data processed, 2021

Why is critical thinking considered important? Because critical thinking is a directed and clear process that is used in mental activities such as: solving problems, analyzing problems, making decisions, and conducting scientific research. In addition, the notion of critical thinking is a person's ability to think in an organized manner and be able to assess the opinions of others (Johnson, 2007: 183). In line with Johnson, Dewey (2009: 2) argued that critical thinking is an active, per-

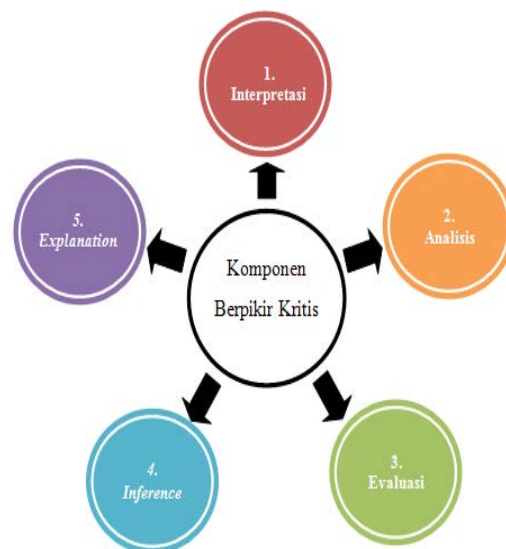


Figure 2. Critical Thinking Components
Source: Primary data processed, 2021

sistent, and thorough consideration of a belief or form of knowledge, reasons that support it. Meanwhile, according to Ennis in Izhab (2004: 87), Mutiarach (2012: 45) stated that there are several components in critical thinking skills, including (1) Interpretation, namely the ability to understand and state the meaning or intent of a widely varying experience, situation, data, event, decision, convention, belief, rule, procedure or performance. (2) Analysis, namely the ability to identify the true intentions and conclusions in the relationship between statements, questions, concepts, descriptions or forms of statements that are expected to express beliefs, decisions, experiences, reasons, information or opinions. (3) Evaluation, namely the ability to evaluate the integrity of statements or other representations or explaining a person's perception, proficiency, position, determination, beliefs and assesses the logical strength of expected inferential relationships or actual inferential relationships among judgements, descriptions, problem or other forms of representation. (4) Inference, namely the ability to identify and select the elements needed to form reasonable conclusions or to form hypotheses by taking into account relevant information. (5) Explanation, namely the ability to state the results of one's reasoning process, the ability to jus-

tify a reason based on evidence, concepts, methodologies, certain criteria and reasonable considerations, and the ability to present one's reasons in the form of convincing arguments namely the ability to identify and select the elements needed to form reasonable conclusions or to form hypotheses by taking into account relevant information.

In addition, in critical thinking skills, there are also characteristics of teaching to acquire critical thinking skills in students according to Kowiyah (2012: 179) including, increasing interaction among students as students; asking opening and closing questions; providing adequate time for students to reflect on the questions asked or the problems given; and Teaching for transfer (teaching to be able to use newly acquired abilities to other situations and to students' own experiences).

Murti (2010: 2) stated that a critical thinker has several characteristics, including: (1) posing a question and being able to formulate a problem; (2) generating new ideas; (3) collecting and evaluating information, (4) drawing conclusions and provide solutions; (5) thinking openly to the possibilities that exist; (6) being able to distinguish facts and opinions; (7) being able to provide a solution to a problem; (8) being honest and refusing manipulation.

Then through what critical thinking can be formed? Through problem based learning learning model. Problem based learning is one of the learning models that can develop students' rational thinking skills, namely the ability to analyze situations, apply their knowledge to new situations, recognize the difference between facts and opinions, and develop students' ability to make judgments objectively. Barrow in Huda (2013: 271) defined that "Problem based learning is learning that is obtained through a series of processes towards understanding the resolution of a problem". In line with this, Ratumanan in Trianto (2010:68) explained that problem based learning is an effective approach for teaching higher order thinking processes.

Lecturers as educators are tasked with

teaching students about the knowledge they have. Rusmono (2013: 77) stated that in the PBL model, lecturers as tutors have the task of managing PBL strategies and steps, facilitating each group, guiding students to study special material towards mechanisms and concepts, not solutions to problems, supporting student autonomy in learning, supports humanism in scientific unity, respecting the values of empathy, stimulating student motivation, evaluating learning, and cooperating with the administration of the study program who acts as a mediator between students and the program.

The purpose of implementing problem based learning. Problem Based Learning is one of the innovative learning models used in the 21st century. This is because the problem based learning model is based on the principle of using problems as a starting point in learning. Thus, problem based learning is one of the learning models that introduces students to various new problems they face in their lives and which they may encounter again after they complete formal education (Saleh, 2013: 203).

The steps for implementing problem based learning according to Sugiyanto in Sunardi (2010: 113), he stated that there are 5 stages in the application of problem based learning. (1) Providing problem orientation to students: Educators discuss learning objectives, motivating students to be involved in activities to overcome existing problems. (2) Organizing students to research: Educators help students to define and organize learning tasks related to the problem. (3) Helping to investigate independently / in groups: Educators encourage students to obtain the right information, conduct experiments, and find solutions to solving these problems. (4) Developing and presenting the work: Educators assist students in planning and preparing appropriate results, such as reports, videos, and models that help them to convey to others the results of the reports obtained. (5) Analyzing and evaluating the problem solving process: Educators help students to reflect on their investigations and

the processes used.

Challenges in the era of society 5.0 for students, Society era 5.0 is a conception of society that is already literate to Information and Communication Technology (ICT). Some of the skills that need to be mastered for students include: creative, innovative, critical thinking, communication skills and collaboration skills. Strengthening of character education also needs to be realized, this aims to form character traits that make morals a distinctive value. Krathwol and Anderson in Sukarno (2020:33), stated that the education taxonomy is divided into Low Order Thinking Skill (LOTS) and High Order Thinking Skill (HOTS).

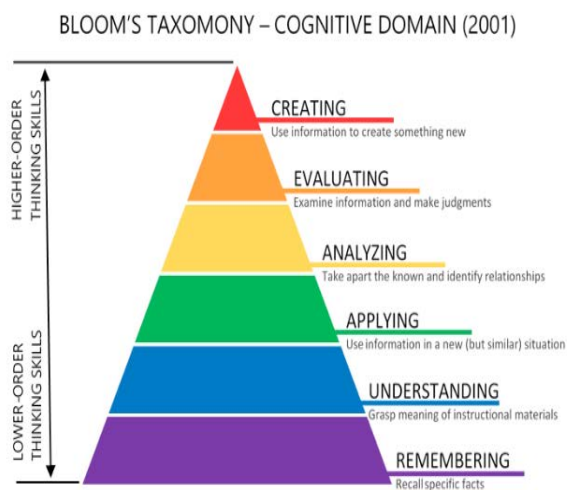


Figure 3. Bloom's Taxonomy

Source: Primary data processed, 2021

Bloom's taxonomy can be used in the learning process as an effort to improve students' critical thinking skills, through the processes of remembering (C1), understanding (C2), applying (C3), analyzing (C4), evaluating (C5), and creating. (C6). Indonesian education efforts in facing the era of society 5.0. The focus of expertise in the field of 21st century education currently includes creativity, critical thinking, communication and collaboration. Some of the skills that must be possessed in the 21st century include: leadership, digital literacy, communication, emotional intelligence, entrepreneurship, global citizenship, problem solving, team-working.

There are several ways that the world

of education in Indonesia can take to deal with society 5.0, namely the first seen from the infrastructure, the government must try to increase the distribution of development and the expansion of internet connections to all regions of Indonesia, because as we know that currently not all regions of Indonesia can be connected with a connection of internet. Second, in terms of human resources who act as teachers, they must have skills in the digital field and think creatively. Third, the government must be able to synchronize education and industry so that later graduates from higher education and schools can work according to their fields and according to the criteria needed by industry so that later they can reduce unemployment in Indonesia. Fourth, The role of the independent campus learning program is to improve students' critical thinking skills. Independent learning - independent campus has provided space or opportunity for higher education in developing learning characters such as social awareness, creativity, mutual respect between different cultures, independence, critical thinking and so on. Of course, in its application, educators must respond wisely and make students have these characters so that they become excellent students, have good personalities, are happy and smart and release the shackles so that it can move more easily can be realized.

The Independent Learning - Independent Campus learning method focuses on experience learning to equip students to enter the community so that authentic learning, contextual learning and project-based learning can be carried out. These three methods fit very well with the current learning model that focuses on competence. The three learning methods are also applications of humanistic learning theory, in which the lecturer acts more as a facilitator and students as the main actor (student centered) who interprets the process of their own experience so that learning becomes meaningful for students (Susilawati, 2021: 217). Based on the explanation above, the researchers decided to examine whether the application of the PBL (problem

based learning) learning model has an effect in improving students' critical thinking skills in the Economic Education Study Program, FKIP Universitas Lampung.

METHODS

This type of research is descriptive verification research using an ex post facto approach with survey techniques and quantitative data types. Verificative descriptive research is research that aims to describe a phenomenon that occurs in certain variables and determine the magnitude of the influence of each variable in a population. While ex post facto research is research that examines a phenomenon or event where the incident has occurred before this research is carried out.

The population used in this study were 256 students of Economics Education FKIP Universitas Lampung, with a minimum number of samples used in this study of 144 students consisting of 2018 and 2020 students by using the Isaac-Michael formula. While the sampling technique used a simple random sampling technique, namely taking samples selected at random.

The data collection technique used a questionnaire. Questionnaires are used to collect data by giving a number of questions or statements to respondents (Sugiyono, 2018: 219). Data collection using this questionnaire was carried out online by using the help of Google Form media.

Analysis of the data used in this study used parametric statistical analysis using an analytical tool in the form of the SPSS 25. In testing the hypothesis, parametric statistical analysis is used. The condition for data to be tested for hypotheses is that the data must pass the data analysis requirements test and the classical assumption test. This means that the data must a normal distribution and come from a homogeneous population, the regression line must be linear, and the data must be free from heteroscedasticity symptoms. After the data passed the test, the hypothesis was then tested by using regression analysis.

RESULTS AND DISCUSSION

The research data was obtained by distributing questionnaires to students of Economics Education of FKIP Universitas Lampung. The data were further categorized into the form of TSR (High-Medium-Low). The following is the categorization of the research data obtained.

Table 1. Categorization of PBL Variable Data

Interval Class	Frequency	%	Category
15-29	0	0	Low
30-44	55	36.18	Currently
45-59	97	63.82	Tall

Source: Primary data processed, 2021

Table 2. Categorization of Critical Thinking Ability Variable Data

Interval Class	Frequency	%	Category
8-15	0	0	Low
16-23	49	32.24	Currently
24-32	103	67.76	Tall

Source: Primary data processed, 2021

The results obtained from a series of studies that have been carried out are obtained by using the SPSS 25 program as in Table 3.

Based on the results of data analysis using SPSS in Ttable 3, it is known that the F-count value was 297.925 with F-table of 3.90 with a sig value. 0.000 on 0.05, thus F-count > F-table or 297.925 > 3.90, it was concluded that the Problem Based Learning learning model positively affected the critical thinking ability of Economic Education of FKIP students, Universitas Lampung.

Based on the results of the SPSS test in table 4 above, the R Square value was 0.665, meaning that the application of this PBL model had a large effect on students' critical

Table 3. Results SPSS Regression Analysis Model Anova

ANOVAa						
Model	Sum of Squares	df	Mean Square	F	Sig.	
Regression	1123,983	1	1123,983	297,925	.000b	
1 Residual	565,905	150	3,773			
Total	1689.888	151				

a. Dependent Variable: Critical Thinking

b. Predictors: (Constant), PBL

Source: Primary data processed, 2021

Table 4. Results of SPSS Regression Analysis Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.816a	.665	.663	1,942

a. Predictors: (Constant), PBL

Source: Primary data processed, 2021

Table 5. Results of SPSS Model Coefficients Regression Analysis

Coefficients						
Model	Unstandardized Coefficients		Standardized Coefficients		T	Sig.
	B	Std. Error	Beta			
1 (Constant)	3.667	1,241			2,955	.004
PBL	.459	.027	.816		17,261	.000

a. Dependent Variable: Critical Thinking

Source: Primary data processed, 2021

thinking skills of 66.5% while the remaining 33.5% was influenced by other variables.

Based on the results of the SPSS test, it is also known that the constant value was 3.667, it means that if the PBL learning model was not applied, the value of critical thinking ability would be 3.667. While the PBL variable of regression coefficient obtained a value of 0.459, meaning that for each addition of one point to the PBL variable, the student's critical thinking ability would experience a change of 3,667.

Based on the analysis that had been done, it was known that the application of the PBL learning model had a positive effect on students' critical thinking skills of 66.5% withby 5%, which means that the results of the study had a 95% truth level. The results of this study are in line with Nadeak, et al (2020: 6) which stated that the application of problem-based learning could help develop critical thinking skills for students of the Education Management Study Program at the Indonesian Christian University. Critical thinking

skills need to be developed by students in an effort to prepare them for the challenges and problems they will face now and in the future. The steps of the PBL learning model used are; (1) identifying the problem, the suitability of the information obtained; (2) exploring interpretations; (3) determining alternatives as solutions; (4) communicating conclusions; and (5) integrating, monitoring, and refining strategies to address problems.

The results of this study indicated that 67.76% of respondents had critical thinking skills with a high category, it was supported by all students stating that the PBL model was able to improve critical thinking skills. During the learning process using PBL, students will be required to be more active in utilizing their cognitive abilities in solving the problems given. By giving a specific problem, students will critically propose ideas to solve the problem by collecting some material from books and data from the internet, analyzing the collected information and proposing ways to solve the problem. The application of PBL also encourages students to think critically in the form of asking questions, discussing problems and making solutions related to topics in economics courses.

Learning by applying the Problem Based Learning model begins with introducing students to problems associated with learning objectives and critical thinking indicators, namely focusing questions, analyzing arguments. The second step is to organize students to learn by paying attention to questions and forming them into groups, then given a problem that must be discussed and resolved by considering the credibility of a source of information. The third step is to guide individual and group investigations by observing students and seeing how they interact with others. The fourth step is to develop and present the work by making deductions and considering the results of the deductions, make inductions and consider the results of induction, identify terms and consider definitions, and identify assumptions. The last step is to analyze and evaluate the problem solving pro-

cess by making decisions and considering the results and deciding an action.

During the learning process, students will carry out various activities and help each other among members in the group to solve the problems that have been presented. With such learning, students will find it easier to understand something when they have difficulties in material or problems that have not been understood. Because as we know that each member in the group is a peer which makes students not feel awkward to ask questions between friends who better understand things they don't know.

The role of the problem based learning model to improve students' critical thinking skills in facing the era of society 5.0. One of the learning models applied in the 2013 curriculum is problem based learning. The purpose of problem based learning is to study problems in the real world Khoiriyah & Husamah (Utomo, et al, 2020: 2). This is because, in the application of the problem based learning model, students and/or students are oriented by various authentic facts or problems in social life, which need to be analyzed and evaluated wisely.

This is in line with the research of uhadaroğlu et al. in Akinoglu (2007), model of Problem Based Learning can change students from receiving passive information to being active (student centered). This model allows students to acquire new knowledge in problem solving. In Problem Based Learning, student attitudes such as problem solving, thinking, group work, communication and information develop positively (Akinoglu, 2007).

The application of the problem based learning model for students in the era of society 5.0, becomes urgency. This is because, problem based learning is a learning model that applies cognitive and constructivist learning theories, so as to generate intellectual and emotional intelligence of students in the midst of social life in the future. Thus, the application of the problem based learning model can be an effort to improve students' critical thinking skills.

The application of Problem Based Learning in this study can clearly improve students' critical thinking skills because students become more active and able to use their thinking skills and are required to actively develop their thinking skills to formulate problems and find solutions in solving problems, so that students are not only passive in receiving explanations delivered by the lecturer.

The urgency of critical thinking skills in facing the era of society 5.0 for students, The rapid development of technology and social life towards the era of society 5.0, thus encouraging people to increase creativity and knowledge, including the ability to think critically in students as agents of change. Hove (Arofah & Nawantara, 2019: 543), stated that critical thinking is one of the skills that must be possessed in an effort to face the influence of global society. Improving critical thinking skills can be improved through education.

Education is one of the institutions that can be used to develop creativity and critical thinking skills, as well as form good character in students, so that they are in line with community expectations in the future. The ability to think critically becomes one of the urgencies for students, because they will become the nation's successors in the future, and should have this ability.

Critical thinking skills will train students to understand the arguments presented by others, critically evaluate these arguments, and develop and defend their own arguments that are supported by a belief. So, through critical thinking skills, students can apply appropriate strategies and skills according to the problems of social life that occur (Arofah & Nawantara, 2019: 544).

Efforts to develop critical thinking skills in students, Critical thinking is the highest level of thinking, as Ruggiero in Marlina (2020:4), classified thinking levels into three broad categories, including; reflective thinking, creative thinking, and critical thinking. The essence of critical thinking is to examine claims and arguments to determine the degree of usefulness and truth. Thus, critical thinking skills need to

be developed at all levels of education, including higher education.

Zhang's (2003) research results stated that there are nine critical thinking skills that need to be developed in higher education, including; curiosity, ability to receive information, open minded, flexible, giving fair judgment, honest, wise in making decisions, diligent in seeking relevant information, and focusing on identifying problems. Higher Education must be able to develop students' abilities to be able to see, know, understand, realize and feel real situations and conditions that occur in people's lives that are being hit by a multidimensional crisis.

The development of critical thinking skills in higher education can be carried out through curricular activities (lectures) and extracurricular activities through optimizing student organizations as a form of freedom of association and assembly. Article 77 Paragraph 3 of Law Number 12 of 2012 concerning Higher Education explains that student organizations have at least a function. First, accommodating student activities in developing students' talents, interests, and potential. Second, developing creativity, sensitivity, critical power, courage, and leadership, as well as a sense of nationality. Third, fulfilling the interests and welfare of students. Fourth, developing social responsibility through community service activities.

CONCLUSION

Based on the results of the research that has been carried out, it can be concluded that the application of the Problem Based Learning model had an effect of 66.5%. The high critical thinking ability of students by 66.5% was caused by the application of the PBL model, it was clear that the application of the PBL model could improve critical thinking skills while the rest was influenced by other factors. Thus, through this research, it is hoped that all educators can try to use a more varied and interactive learning model such as the Problem based Learning model so that it can

improve students' critical thinking skills. If you are going to apply the PBL model in learning, it is better for educators to plan and prepare for the implementation of PBL properly in sufficient time and the selection of the right material because not all materials are suitable to be applied with PBL. Educators also need to make a written guide on PBL steps, what activities will be carried out, implementation schedule, and the tools needed so that through this guide, it will be easier for educators to socialize to students and students can learn before PBL begins. For further researchers, they should conduct a more in-depth study of the application of the PBL model and develop it further in order to better improve students' critical thinking skills.

REFERENCES

- Akinaglu O & Ruhan Ozkardes Tandogan, R. O. (2007). The effects of problem based active learning of student' academic achievement, attitude and concept learning. *Eurasia Journal of Mathematics, Science & Technology Education*, 3 (1): 71-81
- Arends. (2008). *Learning To Teach*. Yogyakarta: Pustaka Belajar.
- Arikunto, Suharsimi. (2010). *Prosedur Penelitian Suatu Pendekatan Praktik*. Jakarta: Rineka Pustaka.
- Arofah & Nawantara. (2019). Pentingnya Critical Thinking Bagi Siswa dalam Menghadapi Society 5.0. SEMDIKJAR 3.
- Dewey, J. (2009). *How We Think*. Boston New York Chicago: D.C. Heath & Co. Publisher.
- Dyas, Sari Devi. (2012). Penerapan Model Problem Based Learning (PBL) Untuk Meningkatkan Kemampuan Berpikir Kritis Peserta Didik Pada Pembelajaran IPA Kelas VIII SMP Negeri 5 Sleman. *Skripsi*. Yogyakarta.
- Ennis, R.H. (1991). *Goals for a Critical Thinking*. Illinois Critical Thinking Project: University Illinois.
- Fisher, A. (2007). *Critical thinking: An introduction*. Cambridge. England: Cambridge University Press.
- Graff, Erik De & Anette Kolmos. (2003). Characteristics of Problem-Based Learning. *International Journal Engng*. Vol. 19, No. 5, 657-662.
- Huda, Miftahul. (2013). *Model-Model Pembelajaran dan Pengajaran*. Pustaka Pelajar: Yogyakarta.
- Husnidar, Ikhsan, M., & Rizal, S. (2014). Penerapan model pembelajaran berbasis masalah untuk meningkatkan kemampuan berpikir kritis dan disposisi matematis siswa. *Jurnal Didaktik Matematika*, Vol. 1, No.1, 71-82.
- Izhab, H. I. (2004). *Mengasah Pikiran Kreatif dan Kritis*. Bandung: Nuansa.
- Johnson. Elaine. (2007). *Contextual Teaching Learning*. Bandung: Nizen Learning Center.
- Kowiyah. (2012). Kemampuan Berfikir Kritis. *Jurnal Pendidikan Dasar*, Vol 3 No 5: 175-179.
- Marlina, R. (2020). Meningkatkan Kemampuan Berpikir Kritis Mahasiswa Melalui Pengalaman Belajar di Organisasi Kemahasiswaan. *Bhineka Tunggal Ika: Kajian Teori dan Praktik PKN*. 7(2): 103-108.
- Mutiarach, Dian. (2012). Kemampuan Berpikir Kritis Siswa. *Jurnal Pendidikan*.
- Nadeak, B. dan Naibaho, L. (2020). The Effectiveness of Problem-Based Learning on Students' Critical Thinking. *Jurnal Dinamika Pendidikan*, Vol 13 No.1, 1-7.
- Nastiti & Abdu. 2020. Kesiapan Pendidikan Indonesia Menghadapi Era Society 5.0. *Jurnal Kajian Teknologi Pendidikan*. 5(1): 61-66.
- Rusmono. (2014). *Strategi Pembelajaran dengan Problem Based Learning Itu Perlu*. Bogor: Ghalia.
- Sanjaya, Wina. (2011). *Strategi Pembelajaran Orientasi Standar Proses Pendidikan*. Jakarta: Kencana Prenada Media Group.
- Saleh, M. (2013). Strategi Pembelajaran Fiqh dengan Problem Based Learning. *Jurnal Ilmiah DIDAKTIKA*. 14(1): 190-220.
- Sendaq, S., & Odabas, H.F. (2009). Effect of problem-based learning course on content knowledge acquisition and critical thinking skills. *Computers and Educations*, Vol 53, No.1, 132-141.
- Sugihartono, dkk, (2007). *Psikologi Pendidikan*. Yogyakarta: UNY Pers.
- Sugiyono. (2018). *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif dan R&D*. Bandung: Alfabeta.
- Sukardi. (2011). *Metodologi Penelitian Pendidikan*. Ja-

- karta: Bumi Aksara.
- Sukarno, M. (2020). Character Education Strengthening in Era of Society 5.0. *Prosiding Seminar Nasional 2020 Fakultas Psikologi UMBY*.
- Sunardi & Nelfiyanti. (2017). Penerapan Metode Problem Based Learning dalam Pelajaran Al-Islam di Fakultas Teknik Universitas Muhammadiyah Jakarta. *Spektrum Industri*.
- Susilawati, N. (2021). Merdeka Belajar dan Kampus Merdeka dlm Pandangan Filsafat Pendidikan Humanisme. *Jurnal Sikola: Kajian Pendidikan dan Pembelajaran*. 2(3): 203-219.
- Trianto. (2010). *Mendesain Model Pembelajaran Inovatif Progresif*. Jakarta: Kencana.
- Utomo,dkk. (2020). Penerapan Problem Based Learning untuk Meningkatkan Kemampuan Berpikir Kritis Siswa. *Prosiding Seminar dan Diskusi Nasional Pendidikan Dasar 2020*.
- Zhang, L.F. (2003). Contributions of Thinking Styles to Critical Thinking Dispositions. *Journal of Psychology*. 137(6): 517-543.