

Improving Critical Thinking Skills of Students through the Development of Teaching Materials

1stRr. Nanik Setyowati
*Pancasila and Civic Education
 Department*
*Faculty of Social Sciences and Law
 Universitas Negeri Surabaya*
 Surabaya, Indonesia
 naniksetyowati@unesa.ac.id

2nd Maya Mustika Kartika Sari
*Pancasila and Civic Education
 Department*
*Faculty of Social Sciences and Law
 Universitas Negeri Surabaya*
 Surabaya, Indonesia
 mayamustika@unesa.ac.id

3rdSiti Maizul Habibah
*Pancasila and Civic Education
 Department*
*Faculty of Social Sciences and Law
 Universitas Negeri Surabaya*
 Surabaya, Indonesia
 sitimaizul@unesa.ac.id

Abstract—Student’s critical thinking ability can be improved through a good learning process. For that, the learning process should be packaged in such a way that students are actively involved in the classroom. The effort to obtain these results is to improve the quality of learning through the use of good teaching materials. Learning to teach is a process that not only get information from lecturers but many activities and actions that should be done, in achieving better learning outcomes for students. For example from the provision of tasks that stimulate students to think critically, provided with methods and learning models in learning. The learning process is essentially a teaching-learning process that emphasizes the importance of learning through experience processes to gain experience. This approach has a very important role in determining the success or failure of the desired study. Critical thinking is a fundamental ability developed by lecturers in learning because today the ability to think critically is very important in everyday life. A lot of phenomena in everyday life are needed to be criticized, especially by students as the younger generation of the nation. For that, it needs to be trained by lecturers in the learning process through the development of teaching materials that support the achievement of improving students’ critical thinking skills in lectures and applied in the community

Keywords: *ability improvement, critical thinking, development, teaching materials*

I. INTRODUCTION

The learning process requires good cooperation from various parties. Ideal conditions, in presenting teaching materials in the learning process and facilitate learners to learn it, teachers need to organize teaching materials that have been developed into teaching materials. But in reality in the field, there are still many teachers who have not been able to develop teaching materials independently. Teachers rely more on textbooks or teaching materials compiled by other teachers or provided by the Government. Teachers are less aware of the importance of preparing the teaching materials that are in accordance with the needs, the benefits of teaching materials in the preparation of learning tools and implementation of learning, teachers do not understand the mechanisms and technical compilation of the right materials. In addition, there are problems faced by teachers such as the limited facilities of ICT in schools and the limited ability of

teachers in utilization. (Directorate of High School Development compile and publish Technical Guidelines for High School Material Development)[1]

As one of the study program who graduated the prospective teachers then the study program of PPKn must prepare it all, but it is not enough, especially with the implementation of Curriculum 2013 which requires teachers to have critical thinking skills. The 2013 curriculum develops the spiritual attitudes, social attitudes, knowledge, and skills of learners. (Permendikbud Number 54/2013). To be able to improve the ability of good critical thinking through the course of International Relations and Global Politics, then the ongoing learning process must be packaged in such a way that students are actively involved in the classroom. In recent years, critical thinking has become a very popular term in education, for many reasons educators have become more interested in teaching critical thinking skills[2].

Efforts to obtain these results, one way to improve the quality of learning. As mentioned above, teaching and learning is a process that not only gets information from lecturers but many activities and actions that should be done, especially if you want better learning outcomes in students. For example from the provision of tasks that stimulate students to think critically and given the methods of learning and learning models provided by lecturers. The approach in the learning process is essentially a teaching-learning process that emphasizes the importance of learning through experience processes to gain experience. This approach has a very important role in determining the success or failure of the desired study.

Wijaya[3] argues critical thinking is the activity of analyzing ideas in a more specific direction, discerning things sharply, and developing in a more perfect direction. Providing critical thinking exercises to students is particularly important because they will have a scientific attitude and the ability to solve problems both during their classes and in the real life they experience.

Starting from what has been described above, then the formulation of the problems posed in this study are as follows:

1. How to develop the feasibility of instructional materials courses International Relations and Global Politics in improving the critical thinking skills of students S1 PPKn PMP-KN FISH Unesa?
2. What is the critical thinking skill of the undergraduate students of PMP-KN FISH Unesa when using the developed teaching materials?

Critical thinking

According to Nadia Mirela Florea and Elena Hurjui[4], critical thinking is a fundamental ability developed by teachers in learning

Critical thinking is a fundamental skill that develops early learning exercises and varied activities, depending on the actual educational situation (static context) and critical thinking development stage (dynamic context). Critical thinking is based on knowledge updating (JL Steele, 2011: 23), analyzing differences and comparisons, namely the establishment of similarities and differences, observing and identifying cause-effect relationships, extracting ideas from examples (inductive) support ideas with examples and evaluation on the value of truth, utility, positive or negative effects (R.V.D Brink-Budgen, 2000: 129).

Today the ability to think critically is very important in everyday life because to develop other thinking skills, such as the ability to make decisions and solve problems. Lots of phenomena in everyday life that need to be criticized[5]. Critical thinking is indispensable in real life, especially in education. Understanding critical thinking in education is the process of thinking to make a decision from various foundations such as evidence, methods, criteria, context, conceptualization and relevant sources of information. A student / prospective teacher who thinks critically then he will be able to:

1. Recognize various issues in education easily.
2. Identify, analyze the cause of the problem and the degree of relationship of a particular problem.
3. Able to make solutions and evaluate them as formulating problems related to National Exam is needed or not.
4. Thereby critical thinking in the world of education is very important because it will improve the skills and professionalism in its activities in education.

Someone who has critical thinking skills will get many benefits both within the scope of the class (learning in school) in the world of work or in community life. Bassham et al (2008) describe critical thinking as useful for improving the ability to understand, construct and make decisions and liberate a person from the dogma of prejudice[6]. According to Hestningsih, and Sugiharsono[7]improving the critical thinking skills of learners is very important for learners because the way learners gain knowledge depends on how to think.

The characteristics of critical thinking involve a variety of inductive skills in several stages, such as analyzing problems openly, determining cause and effect, and presenting conclusions by taking into account the various relevant data obtained. So in principle when there is a thing

or event it will be studied in depth by the learners until they understand.

Critical thinking is the ability to argue in an organized way. Critical thinking is the ability to systematically evaluate the weight of personal opinions and opinions of others. Furthermore, critical thinking is the activity of analyzing ideas or ideas in a more specific direction, distinguish it sharply, choose, identify, study and develop it to a more perfect (Wijaya, 1996: 72). Someone becomes more weighted in dealing with a problem. Sapriya (2011: 87) argued that the purpose of critical thinking is to test an opinion or idea, including in this process is to consider or thought based on the opinion proposed. The purpose of critical thinking is to judge a thought, interpret values and even evaluate the implementation or practice of such thoughts and values. Even critical thinking includes considering activity based on a known opinion. According to Lipman (in Elaine Johnson, 2002: 144) states that these considerations should be supported by acceptable criteria. Elaine Johnson (2002: 185) also states that the aim of critical thinking is to achieve a deep understanding.

From some definitions can be concluded that, understanding of the ability to think critically has the meaning of the power of thought that must be built on the learner so that a character or personality is imprinted in the learner's life to solve all problems of his life by identifying any information received then able to evaluate and then summarize it systematically and then able to express an opinion in an organized way[8].

II. RESEARCH METHODS

This research is a type of descriptive research with the way and step starting from (1) the mapping of SK and KD that exist in KTSP 2006 and Curriculum 2013, (2) set the substance of study subject of International Relations and Global Politics with reference to achievement of subject/on curriculum-based KKNi, (3) preparing various sources of reference related to International Relations and Global Politics, (4) determining parts of the book related to the substance of the study of courses of International Relations and Global Politics and attempted to accommodate material International Relations and Politics Global, (5) preparing the draft of teaching materials based on the substance of the course study with reference to the achievement of subject/competence on curriculum based on KKNi and the material of International Relations and Global Politics, (6) to analyze and discuss with Team related to the substance of study of International Relations and Global Politics, (7) (8) revising course materials based on input from the Expert Team (which includes language, pedagogical, and expert), (9) finalizing the writing of the subject matter of International Relations and Politics Global so that it becomes a draft of course material of International Relations and Global Politics.

A. Research Sites

Location of research is in Pancasila and Civics Education Department (PPKn) of Universitas Negeri Surabaya, Ketintang`Street No.1 Unesa Surabaya.

B. Research Subject

Research Subject is students of S1 PPKn Program Department of PMP-KN Force 2014 as many as 13 students as a product trial.

C. Data Analysis Technique

As for analyzing data from the first problem formulation is looking for data related to the development of teaching materials of International Relations and Global Politics that can make decent students have the ability to increase in critical thinking by through interviews and observation. Followed by making draft teaching materials, and performed improvements in accordance with the input of the Expert Team.

The second problem was obtained through a limited trial of undergraduate students of 2014 a and b as many as 13 people while using developed materials. After that student are given tasks related to the course material hi and global politics. It was known to increase the critical thinking skills they had because before the even semester they were using hi and global politics materials that have not been developed, also given the tasks that are based on the materials that have not been developed

III. RESULTS AND DISCUSSION

A. The Development of Feasibility of HI Course Materials and Global Politics in Improving the Critical Thinking Skills of Student S1 PPKn FISH Unesa.

The researcher developed the course material of International Relations and Politics Global worthy, so that become the teaching material that can improve critical thinking skill of student of PPKn FISH Unesa with the steps as planned to start from preparing Semester Learning Plan (RPS) to finalize writing subject matter of International Relations and Global Politics subject to the draft of subject material of Global Relations and Global Politics course

By doing some steps above the resulting teaching materials are decided to be divided into 9 (nine) chapters. The feasibility of the International Relations and Politics Global material is reviewed in terms of material/concept, learning/pedagogical, and readability/language of the experts in improving students' critical thinking skills. Overall, although the quality of teaching materials is still not perfect already which compiled draft teaching materials Global Relations and Global Politics can be said to have feasibility. In summary, can be seen in table 3.1 below

Table 3.1 Teaching Assessment Instrument from the Review Team

No.	Variable	Indicator	Evaluation Result	
			Yes	No
1.	Properness of Content	1. Valid	√	
		2. Aligned social values	√	
		3. Latest	√	
2.	Accuracy of coverage content	1. The breadth according to the instructional objectives	√	
		2. The depth according to the instructional goal	√	
		3. the whole concept	√	
3.	Digestion	1. Logical	√	
		2. Coherence	√	
		3. Simply example & illustration		√
		4. consistent format	√	
		5. explanation of relevance		√
		6. explanation of benefit	√	
4.	Language use	1. Variative communication language	√	
		2. brief and straightforward word	√	
		3. list of listing		√
		4. effective sentences	√	
		5. paragraph with main idea	√	
		6. sentence in unified paragraph	√	
		7. sentences in coherent paragraph	√	
5.	Illustration	1. Not too dense naration	√	
		2. blank section		√
		3. short sentence	√	
		4. Meaningful graphic and image		√
		5. correct numbering	√	
		6. consistence numbering	√	
		7. attractive alphabet		√
		8. Not confusing letters	√	
		9. There are tools at the beginning, discussion, and end.		√
6.	Illustration	1. Illustration	√	
		2. Attractive illustration	√	
		3. Communicative illustration	√	
7.	completeness	1. Descriptions	√	
		1. Excercises	√	
		3. Feedback	√	
		4. Reinforcement	√	

The draft test of teaching materials in odd semester 2017/2018 on undergraduate students Pin 2104 A and 2014 B as many as 13 students. From the results of this draft test obtained input from students with the same teaching materials assessment tools in Table 4.1 it can be concluded from the evaluation results obtained all the items answered yes except in the item variable digestion with enough indicators of examples and illustrations and explanations of relevance, then on item variable display in the letters of interest and there are tools at the beginning, discussion, and end.

B. Critical Thinking Skills of Undergraduate Students PPKn PMP-KN Department FISH Unesa When Using Developed Substances

Instructional materials International Relations and Global Politics that have been developed conducted trials on S1 students 2014 A and B as many as 13 people. After they give feedback, they are assigned individually. His duties are asked to search for various cases that occur in the world. Apparently, the results are encouraging because they can not only give examples of cases of events that occur in the international world. In this case, the researcher uses a problem-based learning model. As noted by Amends[9] using PBL measures that include:

1. Orienting the students on issues

PBL models' learning, in the beginning, involves a teacher's present clear learning objectives, establishing a positive attitude about learning, and explaining the students about its implementation. Next, there are orientation issues by the teacher until the problems arise or discovered by the students. Students are motivated to solve the problems actively, to find the concept and principles.

2. Organizing students to learn

PBL models' Learning require the participation of skills development among students to assist them in investigating the problem together, this idea will help in planning the investigation and reporting their tasks. Although the study group's area needed, there are some important things to know that learning is formed in diverse based on capability, race, ethnicity, and gender consistent with the objectives to achieve. If the differences are required in the group, then the teacher can create a group with students to handle.

3. Help investigate independently or group

Investigations carried out independently, in groups or in a small group that is the core of the model PBL. Although each situation requires a slightly different problem, investigation techniques, most include data gathering process and experimentation, hypotheses, explanations and settlement administration. At this stage, the teacher encourages students to collect data and carry out the actual activities until they truly understand the dimension of the problem situation.

4. Develop and present work

Students respond to their friend's task/problem independently or in groups. Doing discussion, dialog or in the debate as the way of solving problems that present. Then, the teacher has a responsibility in directing the views and responses but not to act as a source of justification.

5 Analyze and evaluate the results of problem-solving.

To Assist, analyze and evaluate the student's idea or thought are activities and intellectual skills that are used to solve the problems and getting results. Moreover, the teacher should assist the students to rearrange ideas and activities from every stage of learning. These are also the final part of the PBL Learning model.

Margetson[10] states that PBM enhances the development of learning skills in an open mindset, reflective, critical and active learning. PBM facilitates successful solving problems, communication, group work and interpersonal skills better than others.

Through problem-based learning model (PBM) students can improve their critical thinking skills. If the original students can only explain the outline of the problem that must be solved, after using the textbook that has been developed, students can explain who the subject, the object and the process of occurrence of the event. It can then explain the process of conflict resolution that occurs through conciliation/reconciliation, mediation or arbitration. Students can explain the solution that should occur if the problem is not completed because there are instances of cases that still occur such as the Rohingya case.

Students provide a solution if the ASEAN agreement not to interfere in the domestic affairs of a country if not requested needs to be reviewed. This shows that existing teaching materials that provide materials, exercises and tasks can stimulate students to think critically. In addition, teaching materials also provide opportunities for students to develop their knowledge related to existing materials in teaching materials. For example, the organization of the region where students are asked to look for another example than those already has been given by the lecturer through teaching materials. The assignment is an enrichment for the students after receiving the lecture material. Associated with the scientific approach used in the curriculum 2013, the aspects of observing to create can be done by students.

A critical thinking student will have the ability to explore and present the relationship of a problem with other experiences relevant to the problem. In this case will be an organized thinking process to solve a problem by involving mental activities that include the ability to: give arguments, formulate problems, do induction and deduction, evaluate, and make decisions. Lecturers need to develop Teaching Materials because they have to have or use teaching materials appropriate to

1. Curriculum, in this case, the teaching materials that have been generated from the preparation has been designed to follow the curriculum *KKNI* so that the making of teaching

materials through the process ranging from RPS mapping of learning achievements to finalization that has been done. So it can help prospective teachers PPKn in the future. It is undeniable that every level of HI class and global politics in junior high and high school must be there, so the prospective teacher has an obligation to be more serious in learning what is to be his teaching skill.

2. The demands of solving learning problems, the students are included in the group of andragogy, so to make the teaching materials of this matter is considered especially in the making of the problem, the criteria of the given questions must be in accordance with the characteristics of the objectives of the analysis because the purpose of this teaching is to hone student criticality.

A good textbook as one of the teaching materials produced has at least a quality prerequisite, an adequate pedagogical or learning quality and a level of legibility relevant to the needs or level of comprehension and the reader's ability to think. So, in the preparation, it needs to be considered on the aspects of the curriculum, the needs of the target, and the characteristics of the target. For that teaching materials to be generated require assessment from the experts that are experts in substance, language experts and pedagogical experts so that the material can be accounted for feasibility. The ideal learning process requires the use of textbooks in improving students' critical thinking skills in understanding the problems that exist in the world and beyond. To improve the ability of good critical thinking, then the process of learning that takes place should be packed in such a way that students are actively involved in the classroom. To obtain these results, one of them by improving the quality of learning. As noted above, teaching and learning is a process that not only gets information from lecturers, but many activities and actions should be done, especially if they want better learning outcomes from students. For example, the provision of tasks that stimulate students to think critically and the given methods and learning models provided.

The approach in the learning process is to conduct teaching and learning process that emphasizes the importance of learning through experiencing process to gain experience; this has a very important role in determining the success or failure of the desired study. Critical thinking is indispensable in real life especially in the field of education because critical thinking in education is the process of thinking to make decisions from various foundations such as evidence, methods, criteria, context, conceptualization and relevant sources of information. Moreover, behind the development of citizenship commitment is also implied the desire to familiarize students as participants and become transformative citizens who want to participate at least give his thoughts to solve the problems or events that occur in the international world. Although occurring within the international sphere Indonesia will directly or indirectly be affected. With a position as a citizen of the Republic of Indonesia, students are invited to develop and actualize the values of citizenship with various real activities related to the material, even in the international world.

Students learn not only to remember the facts lecturers give in lectures but must be able to see the various phenomena behind the facts. The learning process is not only aimed at remembering facts but learning beyond facts. Developing a learning process that emphasizes giving students the opportunity to have thinking skills will be more empowering and meaningful.

Guilford (1956) suggests that experts have recommended two types of thinking strategies in learning, i.e., convergent and divergent thinking that is developed in a balanced way. Convergent thinking strategies have been tested to improve critical, logical, systematic and planned thinking skills, while divergent thinking strategies generate creative, imaginative, and spontaneous thinking[11].

The students' critical thinking skills can be improved by being trained in learning that requires them to explore, inquire, problem-solve, solve problems so as to achieve a solution of their own. For that learning materials developed and stimulate students to develop the material must be equipped with the provision of exercise and good tasks that can improve the critical thinking skills of students. This is also in accordance with the 2013 curriculum with the scientific approach or KKNi at the level of students with learning achievement.

IV. CONCLUSION

Developing the appropriate course of International Relations and Global Politics Subject Materials and subsequently become a practical and easy-to-understand subject by undergraduate students of PPKn with predetermined steps ranging from a mapping from K 2013 to ready to become a ready-to-trial material. Establishment of study program with the topic of Global Relations and Global Politics with reference to the achievement of subjects/competencies in the curriculum based on KKNi. The establishment of new RPS from HI and Global Politics are courses along with the development of the textbook.

Critical thinking is indispensable in real life, especially in the field of education, because critical thinking in education is the process of thinking to make decisions from various foundations such as evidence, methods, criteria, context, and conceptualization and relevant sources of information. In the end, this can be practiced by students in real life.

ACKNOWLEDGMENT

Authors wish to thank the Faculty of Social Sciences and Law, Universitas Negeri Surabaya for providing the research grant in 2017.

REFERENCES

- [1] Team, *Directorate of High School Development. Technical Guidelines for High School Materials Development/ Panduan Pengembangan Materi Untuk Sekolah Menengah Atas*. Jakarta, 2012.
- [2] A. Fisher, *Critical Thinking, An Introduction*. Jakarta: Erlangga, 2008.

- [3] E. Istianah, "Improving Critical Thinking Skill and Creative Mathematics with Eliciting Activities (MEAs) Model Approach to Students,."/Meningkatkan Berpikir Kritis dan Matematika Kreatif Dengan Medel Aktivitas Beragam kepada Siswa *Sci. J. Math. Study Progr. STKIP Siliwangi Bandung*, Volume 2, No. 1, p. 46.
- [4] E. H. Nadia Mirela Florela, "Critical Thinking in Elementary School Children,."/Berpikiri Kritis Pada Sekolah Dasar, *Procedia - Soc. Behav. Sci.*, p. 565–72., 2014.
- [5] *What is Critical Thinking* [Online]. Available: <http://nengah235.blogspot.co.id/2013/03/apa-itu-berpikir-kritis.html>. [Accessed: 22-Mar-2017].
- [6] A. Suprijono, *Emancipatory Learning Models./Model Pembelajaran Emansipatori*, Yogyakarta: Pustaka Pelajar, 2016.
- [7] N. and S. Hestningsih, "Improvement of Critical Thinking Skill of Student of IPS Learning through Problem Solving Method with Media Information,." *Soc. Harmon. IPS Educ. J.*, Volume 2, No. 1, pp. 71–86.
- [8] "Understanding Ability Critical Thinking." [Online]. Available: <http://www.kajian theory. com / 2014/02 / understanding-ability-think-critical.html>. [Accessed: 28-Mar-2017].
- [9] H. and M. F. R. Ikman, "Effect of Problem Based Learning (PBL) Models Of Critical Thinking Ability Students On The Early Mathematics Ability,." *Int. J. Educ. Res.*, Volume 4, No. 7, pp. 361–362.
- [10] Rusman, *Learning Models./Model-Model Pembelajaran*, Jakarta: PT Rajagrafindo Persada, 2009.
- [11] E. Nurhayati, *Innovative Education Psychology./Psikologi Pendidikan Inovatif* Yogyakarta: Pustaka Pelajar, 2009.