

# Characteristics Of Critical Thinking Of SMP Students In IPS Lessons Based On Local Interest Through Advance Organizer

**Sudarmiani, Sri Jutmini, Baedhowi, Gunarhadi**

Student Doctoral of Education Science Studies Program, Sebelas Maret University, Indonesia  
*ani@student.uns.ac.id*

Lecturer of Education Science Studies Program, Sebelas Maret University, Indonesia  
*srijutmini@staff.uns.ac.id*

Lecturer of Education Science Studies Program, Sebelas Maret University, Indonesia  
*baedhowi@staff.uns.ac.id*

Lecturer of Education Science Studies Program, Sebelas Maret University, Indonesia  
*gunarhadi@staff.uns.ac.id*

**Abstract:** Critical thinking is the ability to evaluate a statement and identify a reason, for example, the evidence underlying the evaluation. In Social Sciences subjects critical thinking skills are essential. Then an integrated learning model is needed that allows students both individually and actively seek, explore, and discover concepts and principles holistically and authentically. One learning model that is expected to improve critical thinking skills is the Advance Organizer learning model. The primary idea of advancing organizer is that it is known to be known. This type of research is research and development (RnD) from Borg and Gall. The data obtained in this research and development are of two kinds, namely primary data and secondary data. Primary data in the form of information from informants, suggestions/comments from expert teams on the draft model and tools for social studies learning, interviews with principals, teachers, students, and cultural experts, student learning outcomes. Secondary data is obtained from relevant documentation and supports research from the education office and school where the study conducted. The questionnaire arranged in the form of a Likert scale, and descriptive statistical analysis techniques analyzed the results. The effectiveness test uses a before-after research design study design by comparing two groups. Namely, the experimental group gave social studies learning with the Advanced Wisdom-based learning model, while the control group uses learning that commonly used in schools namely lectures vary (lectures, question and answer, and discussion). Based on the recapitulation of students' critical thinking abilities, it was found that out of 26 students in the experimental class, the number of students had high critical thinking skills as many as 23 students (88.46%) while those with low critical thinking skills were 3 students (11.54%). In the control class results obtained, students with high critical thinking ability were 15 people (57.69%), while students with moderate critical skills were eight students (30.77), and those with low critical thinking skills were three students (11, 54%). Based on these observations it is known that the experimental class the number of students who have critical thinking skills is higher than the control class. It shows that IPS learning based on local wisdom can improve students' critical thinking skills, based on the results of the above observations, in the experimental class classically students who have critical thinking skills are 88.66% high category, whereas. In the control class 57.69%.

**Keywords:** Critical Thinking, Social Sciences, Local Wisdom, Advanced Organizer.

## 1. Introduction

In the current competitive era, all countries are trying to improve the quality of their education, because the quality of education is one indicator of the level of welfare of the people in a country. Through quality education will produce higher quality human resources that can manage natural resources effectively, efficiently, the country's productivity will increase, and are expected to be able to improve competitiveness and welfare of the community. By the changing demands of the age, the education curriculum emphasizes strengthening reasoning. This change was decided by referring to the results of an international survey on the ability of Indonesian students. One of them was the "Trends in International Math and Science" survey by the Global Institute in 2007. According to this survey, only 5 percent of Indonesian students were able to work on high category questions that needed seasoning. In comparison, Korean students who were able to do it reached 71 percent. Conversely, 78 percent of Indonesian students can work on low category questions that only require memorization — meanwhile, only 10 percent of Korean students who can work on such issues. Indonesia in the top 10 most potent of the 65 PISA participating countries [1]. Assessment criteria

include cognitive abilities and expertise in reading, mathematics, and science students. Almost all Indonesian students turned out to only master the lesson up to level 3. While many other developed and developing students, mastered lessons up to level 4, 5, and even 6, also, creativity also really needs to be emphasized during the learning process. The 2013 curriculum is prepared to produce generations who are ready to face the future. The curriculum is structured to anticipate future developments. The emphasis is aimed at encouraging students or students to be better able to make observations, ask questions, reason, and communicate (present), what they get or know after receiving learning material. The objects that become learning in structuring and refining the 2013 curriculum emphasize natural, social, artistic, and cultural phenomena. Through this approach, it expected that our students have much better competence in attitudes, skills, and knowledge. They will be more creative, innovative, and more productive, so that later they can succeed in facing various problems and challenges in their time, entering a better future. The 2013 curriculum aims "to prepare Indonesian people to have life skills as individuals and citizens who are faithful, productive, creative, innovative, and effective and able to contribute to

the life of the world, nation, state, and world civilization" [2]. Competencies needed in the future in accordance with global development include: communication skills, critical thinking skills, the ability to consider the moral aspects of a problem, the ability to be responsible citizens, the ability to tolerate different views, the ability to live in a globalized society, having readiness to work, have intelligence according to their talents or interests, and have a sense of responsibility towards the environment — this curriculum structured with the intention to develop the potential of students to become the ability to think reflective in solving social problems in society by perfecting the mindset of passive learning into critical learning. Based on the results of the interview with the chairperson of the Social Sciences Subject (IPS MGMP) Deliberation Council, Madiun City, Mr. Agus Budi Santoso on Wednesday, May 6, 2016, about the learning process carried out so far:

*Whereas social studies conducted by teachers have not yet utilized the surrounding environment in the form of local wisdom values for students' examples and provocation to be interested and can enter into sub-themes of material, especially for the sub-themes of "changes due to Antarruang Interaction." So that students often do not know about local wisdom and the unique culture that Madiun possesses which, if explored, is rich in local wisdom values. Also, during the learning process the teacher has not assessed students' critical thinking skills, only cognitive assessment (learning outcomes), affective (spiritual and social attitudes) and psychomotor (skills related to the tasks given). So that in the delivery of questions, arguments or layouts of discussion assignments are often not coherent and cannot describe coherent sentences accompanied by examples.*

Based on the results of the preliminary study in social studies learning, the learning activeness of students in each school was as follows: State Junior High School 1 was 59.33%, Middle School 2 was 59.53%, Middle School 7 was 55.67%, Public Middle School 11 of 51.22%, and SMP Negeri 12 of 53.38%. Based on data on learning outcomes and student learning activeness in social studies subjects in the city of Madiun is still low. Critical thinking ability had not yet explicitly observed but incorporated into the observation of activeness in the aspect of argumentation ability during group discussion activities. In order for students to be able to understand the IPS concept better, it is necessary to have a systematic learning plan about how to manage meaningful learning. One of the learning models was to be used the Advanced Organizer learning model developed by Ausubel. Advance Organizer learning model is one of the active learning models designed to strengthen the cognitive structure of students and their knowledge of individual lessons and how to manage, clarify, pay attention to and maintain that knowledge well [3]. By using the principles of integrative reconciliation, learning activities will increase, then through a critical approach, the teacher stimulates students to express student ideas and ask for summaries and differences in material aspects. At this stage students' critical thinking skills are honed because with interactive learning many students take the initiative to ask questions, answer and deliver arguments based on the knowledge that obtained.

Improving critical thinking skills in college students through RMS models for learning basic concepts in science [4]. The RMS learning model effectively enhances students' critical thinking skills and can harmonize students' critical thinking skills in different academic abilities. Mustofa & Setya Yuwana (2016). To assist students in understanding the success of Indonesian literature, supporting facilities are needed, namely by developing learning models that appreciate critical literary analysis based on Indonesian literature to improve students' critical thinking skills [5]. The adaptation of this research can develop the character of students' critical thinking skills in social studies learning based on local wisdom through Advance Organizer for junior high school students.

#### a. Advanced Learning Model Organizer

The theory of knowledge is dependent on what is known [6]. Two principles behind advance organizers are related to the explanation of how people acquire knowledge.

- 1) Progressive differentiation: working from general concepts to specific concepts of given discipline;
- 2) Integrative reconciliation: relating to new ideas to prior experience.

Ausubel explained that new information can be learned meaningfully and is not quickly forgotten as long as the further information can be linked and multiplied by existing concepts. If the new material is very contrary to the cognitive structure that exists or cannot connect to an existing idea, then the new content is not understood and stored again [3]. The syntax is as follows:

**Table 1.** Syntax Advanced Learning Model Organizer

Stage	Teacher Behavior
<b>Stage-1</b> Presentation of Advance Organizer	<ol style="list-style-type: none"> <li>1. Deliver the learning objectives</li> <li>2. Presenting the Advanced Organizer</li> <li>3. Grow awareness of relevant student knowledge and experience.</li> </ol>
<b>Stage-2</b> Presentation of Learning Task or Material	<ol style="list-style-type: none"> <li>1. Make the organization explicit</li> <li>2. Make a sequence of learning material logically and explicitly</li> <li>3. Maintain an atmosphere to be attentive</li> <li>4. Presenting ingredients</li> </ol>
<b>Stage-3</b> Strengthening Cognitive Organization	<ol style="list-style-type: none"> <li>1. Using the principles of integrative reconciliation</li> <li>2. Improve learning activities (learning to accept)</li> <li>3. Take a critical approach to clarify the subject matter</li> <li>4. Clarify</li> </ol>

*Source: Joyce, Weil, & Calhoun (2009: 256)[3]*

In the learning model Advance Organizer, the teacher holds control of the learning structure. Is needed to connect learning material with the Advanced Organizer and help students to distinguish between new material and previous material. The success of mastering this material depends on the criticality and desire of students to integrate or integrate the content and how the teacher presents the Advanced Organizer. This social system looks very striking in the third stage with an ideal learning situation because it is more interactive with many students taking the initiative to ask questions.

### b. Local wisdom

Regional cultural diversity is a social potential that can shape its character and artistic image in each region and is an integral part of the formation of the image and cultural identity of an area. It needs to be observed because the cultural heritage and traditional values contain a lot of local wisdom which is still very relevant to the current conditions and should be preserved, adapted or even further developed. In the current era of globalization, with the age of globalization followed by the entry of foreign cultures, local wisdom should be synergized. Thus it will continue to maintain the preservation of ancestral customs which are also the national culture of Indonesia, protection of the culture of local wisdom needs to be done to preserve the misuse of Indonesian culture from other nations. The cultural heritage of the ancestors of Indonesia is a legacy of cultural diversity for the Indonesian people that has its uniqueness and appeal. If ethical values do not accompany the technology advances, it will damage the morale and culture of the people in Indonesia. According to Nakaya (2004), local wisdom classified into two aspects, namely [7]:

- 1) Tangible
  - a) Textual
  - b) Buildings or Intellectuals
  - c) Cultural or Traditional Objects (Artwork)

### 2) Intangible

In addition to the form of real local wisdom, there is also a form of local knowledge that is intangible such as advice delivered verbally and hereditary which can be in the way of songs and songs containing traditional teaching values. Through advice or other forms of invisible local wisdom, social benefits are delivered orally / verbally from generation to generation. As an urban area, the city of Madiun has many places of entertainment, recreation and artificial attractions including Square / Madiun Square, Dumilah park (Playground and Water Boom), and Taman Bantayan. Besides that, there are still entertainment venues such as children's playgrounds in shopping centers, family karaoke venues, public open spaces and other entertainment venues that spread in Madiun City. The diversity of local wisdom values possessed by the City of Madiun can use as a learning media for Social Sciences subjects in Junior High Schools using the Advanced Learning Model Organizer.

### c. Social Sciences Learning

The integrated learning approach in social studies often referred to as an interdisciplinary approach. The blended learning model is necessarily a learning system that allows students both individually and in groups to actively seek, explore, and find concepts and principles holistically and authentically [8]. One of them is integrating Basic Competence. Through combined learning, students can gain direct experience, so that they can add the power to receive, store, and produce impressions about the things they learn. Thus, students are trained to be able to find out for themselves the various concepts learned. The aim of social studies is to prepare students to become citizens who are both based on Pancasila and the 1945 Constitution, by emphasizing the development of individuals who can understand the problems that exist in the environment, both from the social environment, and the natural environment, both as individuals as well as community members, besides being able to think critically and creatively, and can continue

and develop national cultural values. Social studies subjects aim to create the potential of students to be sensitive to social problems that occur in the community, have a positive mental attitude towards the improvement of all inequalities that happen, and be skilled in overcoming everyday issues, both those that afflict themselves and those that afflict society [9].

### d. Critical Thinking

Critical thinking is reasonable, reflective thinking focused on deciding what to believe or do [10]. Critical thinking is the ability to evaluate a statement and identify a reason, for example, the evidence underlying the evaluation. Critical thinking skills consist of essential low-level skills of thinking and high-level critical thinking skills [11]. Low-level thinking skills include: (1) the ability to compare and differentiate is the ability to search for various similarities and differences between two objects, events of organisms, institutions, and ideas based on certain aspects; (2) the ability to make categories is the ability to think to group information or objects into certain groups following characteristics that can be considered; (3) the ability to believe in composing and following a sequence is the ability to think to organize and develop a particular order or series; (4) the ability to think explaining causation is the ability to examine and explain the causes of an event based on substantial reasons and look for various possible reasons why something happened. Low-level critical thinking skills divided into the ability to compare or differentiate, create categories, arrange things based on their order, and explain causation. High-level thinking skills include: (1) the ability to think in making hypotheses is the ability of a person to make coverage of an event that will occur in the future that is made based on specific evidence and information; (2) The ability to think in making suppositions is the ability to work around and examine both the items that have formed are real or not based on evidence and valid reasons; (3) The ability to think in explaining cause and effect is the ability to use considered to analyze and assess causes to make the right conclusions; (4) the ability to believe in making decisions is the ability to choose the best choice from several alternatives to achieve goals based on specific criteria; (5) the ability to make generalizations is the ability to make general conclusions based on samples and comprehensive and consistent information. Thus the component of high-level critical thinking skills consists of: the ability to form hypotheses, make suppositions, explain causes and effects, synthesize, make decisions from the problems faced.

## 2. Method

The method used in this study is research and development (RnD) [12]. The sample is class VII Madiun 1 Public Middle School, Grade VII students of Madiun State Middle School 2, Grade VII students of SMP Negeri 7 Madiun, Grade VII students of SMP Negeri 10 Madiun, Grade VII students of SMP Negeri 10 Madiun, and Grade VII students at SMP Negeri 12 Madiun. Each school is taken by 10 students so that the total number of samples is 50 students. Product development through the stages of validation, limited testing, and large-scale testing. After the module is categorized as feasible, the researcher tests the effectiveness of the module then describes the results of the study qualitatively. The data obtained in this research and development are of two kinds, namely primary data and secondary data. Primary data in the

form of: information from informants, suggestions / comments from expert teams on the draft model and tools for social studies learning, interviews with principals, teachers, students and cultural experts, student learning outcomes. Secondary data is obtained from relevant documentation and supports research from the education office and school where the study conducted. The questionnaire was arranged in the form of a Likert scale, and the results were analyzed by descriptive statistical analysis techniques. The effectiveness test uses a before-after research design study design by comparing two groups. Namely, the experimental group gave social studies learning with the Advanced Wisdom-based learning model, while the control group uses learning that commonly used in schools namely lectures vary (lectures, question and answer, and discussion).

### 3. Result

Based on the implementation of learning using the Advance Organizer learning model on social studies subjects based on local wisdom in the material "Changes due to interaction between rooms" in VII G (Control Class) and VII H (Expectation Class) students at 12 Madiun Public Middle School, using observation sheets students conducted by teachers to find out students' critical thinking skills obtained results for High (T), medium (S) and Low (R) qualifications with the following recapitulation:

**Table 2. Recapitulation of Low Category Critical Thinking Abilities**

Group	The number of students					
	T	%	S	%	R	%
Experiment	14	71,88	18	28,12	0	0
Control	6	18,75	21	65,62	5	15,63%

Based on the recapitulation of students' critical thinking abilities, it found that out of 32 students in the experimental class, the number of students had high essential skills of thinking as many as 14 students (71.88%) while those with low critical thinking skills were 18 students (28.12%). In the control class, results obtained, students with high critical thinking skills were six people (18.75%), while students with moderate critical skills were 21 students (65.62), and those with low essential skills of thinking were five students (16, 63%). Based on the results of these observations it is known that the experimental class the number of students who have high critical thinking skills is higher than the control class. Shows that social studies learning based on local wisdom by using Advanced Organizer able to improve students' critical thinking skills.

### Observation Results of Student Thinking Ability Per Aspect

#### 1) Experimental Class

Observation of critical thinking skills of class VII students on a limited test for each aspect which includes aspects A: Express ideas/ideas, aspects B: Truth Concepts, Aspects C: Accuracy in answering questions, and Aspects D: Ability to conclude. Recapitulation of observations of critical thinking skills of class VII students on limited test per aspect can see in the following table:

**Table.3 Recapitulation of Critical Thinking Ability Per Aspect of Low Class School Experiment Classes.**

Code	Aspect	Score					
		3	%	2	%	1	%
A	Express ideas / ideas	17	53,13	12	37,50	3	9,37
B	Concept Truth	14	43,75	14	43,75	8	2,50
C	The accuracy of answering questions	15	46,88	14	43,75	3	9,38
D	Ability to conclude	9	28,13	18	56,25	5	15,63

Based on the results of the recapitulation, shows that the distribution of students' critical thinking skills per aspect in the experimental class is high. The number of students 32 in the experimental class, in each aspect, is close to 50%, but in the aspect of concluding abilities nine students (31.25%), because in the aspect of drawing conclusions students are asked to provide solutions to problem-solving that are relevant, based on rational arguments and creative. This assessment makes it difficult for students to master because the process of critical thinking is just beginning. But from these results, it has been able to show that the development of the IPS learning model based on the value of local wisdom with the Advanced Organizer model can improve students' critical thinking skills

#### 2. Control Class

The following is the recapitulation of the results of observations of students' critical thinking skills in the learning process in the control class.

**Table.4 Recapitulation of Students' Critical Thinking Ability in Low-Level School Control Classes**

Code	Indicator	Score					
		3	%	2	%	1	%
A	Express ideas / ideas	7	21,88	19	59,37	6	18,75
B	Concept Truth	7	21,88	16	33,33	9	9,38
C	The accuracy of answering questions	4	12,50	19	39,58	9	9,38
D	Ability to conclude	1	3,13	12	25,00	19	19,79

Based on the results of the recapitulation above, it shows that the distribution of students' critical thinking abilities per aspect in the control class is on average. Shows that the learning process carried out in the control class of students' critical thinking skills are on average (the activity is still better in the experimental class).

### Observation Results of High Category Critical Thinking Ability

The extensive trial of the 1st meeting held on November 2 and November 9, 2017, and the second meeting on November 8 and November 15, 2017. Extensive tests in high category schools held at SMP 2 Madiun for students of class VII E and VII F.

### a. Observation Results of Students Per Qualification Thinking Ability

After the learning was carried out by using the Advanced Organizer learning model on social studies based on local wisdom in the material "Changes due to Antarruang Interaction" in class VII E (Experiment class) and VII F (control class) in Madiun 2 Public Middle School, using observation sheets students used by teachers to find out students' critical thinking skills obtained results for High (T), medium (S) and Low (R) qualifications with the following recapitulation:

**Table.5** Recapitulation of the Ability of Critical Thinking Ability to Extend the High School Category

Group	The Number Of Students					
	T	%	S	%	R	%
Experiment	23	88,46	3	11,54	0	0
Control	15	57,69	8	30,77	3	11,54%

Based on the recapitulation of students' critical thinking abilities, it found that out of 26 students in the experimental class, the number of students had high essential skills of thinking as many as 23 students (88.46%) while those with low critical thinking skills were three students (11.54%). In the control class results obtained, students with high critical thinking ability were 15 people (57.69%), while students with moderate critical skills were eight students (30.77), and those with low essential skills of thinking were three students (11, 54%). Based on these observations it is known that the experimental class the number of students who have critical thinking skills is higher than the control class. Shows that IPS learning based on local wisdom can improve students' critical thinking skills, based on the results of the above observations, in the experimental class classically students who have critical thinking skills are 88.66% high category, whereas. In the control class 57.69%.

### b. Observation Results of Student Thinking Ability Per Aspect

#### 1). Experimental Class

Observation of critical thinking skills of class VII students on a limited test for each aspect which includes aspects A: Express ideas/ideas, aspects B: Truth Concepts, Aspects C: Accuracy in answering questions, and Aspects D: Ability to conclude. The recapitulation of the observations of the critical thinking skills of the experimental class students is as follows:

**Table.6** Recapitulation of Critical Thinking Ability Per Experimental Class Aspect

Code	Aspect	Score					
		3	%	2	%	1	%
A	Express ideas/ideas	19	73,08	7	26,92	0	0,00
B	Concept Truth	16	61,54	10	38,46	0	0,00
C	The accuracy of answering questions	15	57,69	10	38,46	1	3,85
D	Ability to conclude	15	57,69	9	34,62	2	7,69

Based on the results of recapitulation in the table above, shows that the distribution of students' critical thinking skills per aspect in the experimental class is high. The number of students in the learning process was 26 students, in the aspects of A, B, C, and D, the value of high critical thinking skills was more than 50%. Indicates that the learning process carried out in the classroom controls students' critical thinking abilities on average ( students' critical thinking activities are better in the experimental class).

#### 2). Control Class.

The following are the results of recapitulation of students' critical thinking skills in the control class in SMP Negeri 2 as follows

**Table.7** Recapitulation of Critical Thinking Ability in High-Class School Control Classes

Code	Indicator	Score					
		3	%	2	%	1	%
A	Express ideas/ideas	16	61,54	7	26,92	3	11,54
B	Concept Truth	9	34,62	13	50,00	4	15,38
C	The accuracy of answering questions	3	11,54	19	73,08	4	15,38
D	Ability to conclude	4	15,38	14	53,85	8	30,77

Based on the results of recapitulation in the table above, shows that the distribution of students' critical thinking skills per an aspect of the average control class is low. But in terms of expressing ideas / ideas, the number of students who score above the average is high. This fact is due to the early ability of students in high-category schools including the smart student category. Thus the learning process carried out in the control class of students' critical thinking skills is on average (the activity is still better in the experimental class).

### 4. Conclusion

The real condition shows that social studies learning should accommodate the values of local wisdom in the city of Madiun so that students have a close relationship and concern for the surrounding environment. To improve students' critical thinking, one of them is through social studies with an advance organizer. However, the conditions in Madiun City are still far from the above expectations, so that research and development of social studies learning models based on local wisdom are needed with an advance organizer model to improve the critical thinking skills of middle school students. Based on the results of the study, the critical thinking characteristics of class VII junior high school students in social studies based on the value of the local wisdom of the city of Madiun on the material: Humans, Places, and Environments "in the sub-material" Changes due to Interrelated Interactions "showed higher characteristics of critical thinking in all aspects observed include aspects of expressing ideas/ideas, truths of concepts, accuracy of answering questions, and ability to conclude in the experimental class, while in the control class critical thinking skills tend to be low. It proves that the Advance Organizer Learning Model can improve students' critical thinking skills.

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