

# Application of Means Ends Analysis (MEA) Learning Model in Attempt to Improve Student's High Order Thinking

(Classroom Action Research in Class VIII-D SMPN 5 Bandung)

Alif Aulya Riana \*, Aim Abdulkarim, Jupri  
Email: [Alifaulya15@gmail.com](mailto:Alifaulya15@gmail.com)

**Abstract--**This study is based on the problems that occur in IPS learning in class VIII-D students of SMPN 5 Bandung that is teacher-centered in the classroom and the ability of students to think high-order are still low. The alternative problem solving chosen is by applying the Means Ends Analysis (MEA) learning model. Based on the background, the formulation of this study problem is how the planning, implementation, implementation results and what are the obstacles of the learning model Means Ends Analysis in attempt to improve the ability of high-order thinking. Reviewing the problems to be studied in relation to the learning process, the author chose Classroom Action Research (PTK) with Kemmis and Taggart cycle model in 3 cycles with 12 actions. Implementation of learning by using learning model Means Ends Analysis in improving the ability of students high-order thinking are said to succeed. The improvement of high-order thinking ability of students can be seen from the development of aspects that become indicators of high-order thinking. All aspects of this indicator have evolved from cycle 1 to cycle 3, from which initially the quality is less, it is sufficient to improve. In conclusion, the implementation of learning model Means Ends Analysis can improve the ability of high-order thinking of students in IPS learning. This is supported by the achievement of all indicators in analyzing and evaluating. Both are in good categories and indicators to create are in enough category.

**Keywords:** High Order Thinking Ability, Means Ends Analysis (MEA) Learning Model, IPS Learning.

## INTRODUCTION

Based on observations made in class VIII-D SMP Negeri 5 Bandung, the author found various problems that exist in the classroom in IPS learning. These problems include the low ability to think high-order students. This problem is seen when teacher asks questions to students to appear less enthusiastic in answering questions. In this learning activity, teacher occasionally asks analytical questions to students such as "In your opinion, what is the relation of function and role of natural resources to human life? Just imagine if the natural resources in Indonesia are depleted, what will happen?". When teachers ask these questions, students are less willing to express their opinion and analysis. Whereas when teachers ask questions that are only limited to knowledge such as "What is a natural resource?", Students look enthusiastic to answer the question where the answer is already written in the text book. This indicates the low level of thinking ability of class VIII-D students of SMP Negeri 5 Bandung in IPS learning.

The problems that arise above are caused by several factors such as the use of learning model that has not been done optimally. Students focus on learning that is emphasized on lecture methods in classroom and students look passive in the learning activities and follow what the teacher presented. In addition, IPS learning in the classroom tends to be textbook oriented and does not lead students to think deeper in the activities. These obstacles are one of the obstacles to optimizing IPS learning in the classroom. Students are accustomed to listening and taking notes, and are less exposed to the problems that exist. From the problems that have been mentioned, the author focuses more on the problem of low ability to think high-order students in class VIII- D SMP Negeri 5 Bandung.

With the focus of the problems taken by the author is to improve the ability of high-order thinking of students, the author tries to develop the learning activities of the class to achieve the competence that will give rise to high-order thinking ability of students through means-ends analysis model. Implementation of

learning means-ends analysis model will bring up many problems that exist near the environment of students. Students will be directed to be able to analyze various problems contextually. This learning model can be implemented to direct students in the problem-solving process in groups by identifying into sub core problems close to the daily environment of students. In addition, the means-ends analysis model is a series of processes in a systematic, structured and meaningful way. As stated by Huda (2014, pp. 294)

that: "MEA is a strategy that separates the known problem (problem state) and goal to be achieved (goal state) which then proceeded to perform various ways to reduce the difference between the problems and goals". The reason for using Means Ends Analysis (MEA) learning model is expected to improve the ability of high-order thinking of students, where in this learning model students are invited directly in analyzing the problem solving contextually. According to Suyitno (2006: 25) citing Wiederhold's opinion, states that "problem-solving model is seen as a learning model that can improve students' high order thinking skills (HOT)". This mean ends analysis means that students play an active role in IPS learning by conducting group discussions that will not make students bored in learning and learning model is focused on students who play an active role (student center) and teachers only as a facilitator. High-order thinking ability by Anderson and Krathwohl (2001 pp. 30) "ability that includes in the high-order thinking category is ability to analyze, evaluate and create." Through means ends analysis means that students are able to identify problems, analyze problems, find conclusions from a problem and be able to design a way to solve the problem. From the learning process, the ability to think is not just rote or memory only. From the above problems, the author is interested in conducting classroom action research. With the title of this study is "Application of Means Ends Analysis (MEA) Learning Model in Attempt to improve High Order Thinking Ability in IPS Learning (in Class VIII-D

SMPN 5 Bandung)". Problem formulation in this study is: first, how is the planning of Means Ends Analysis (MEA) learning model in attempt to improve High Order Thinking students in IPS learning in class VIII-D SMP Negeri 5 Bandung? Second, how can the implementation of Means Ends Analysis (MEA) learning model improve High Order Thinking of students in IPS learning in class VIII-D SMPN 5 Bandung? Third, how big the result of implementation of learning model of Means Ends Analysis (MEA) can improve High Order Thinking students in IPS learning in class VIII-D SMP Negeri 5 Bandung? Fourth, what are the obstacles in applying Means Ends Analysis (MEA) learning model to improve High Order Thinking of students in IPS learning in class VIII-D SMP Negeri 5 Bandung?

## STUDY METHOD

The method used in this study is Classroom Action Research (PTK). The definition of Classroom Action Research (PTK) is disclosed by Hopkins (in Wiriaatmadja, 2012, p. 11) which states "Study that combines study procedures with substantive action, an action performed in the inquiry discipline or an attempt to understand what is going on, while engaging in a process of improvement and change ". This study uses Kemmis and Mc Taggart cycle model consisting of four components, namely planning, action, observation, and reflection. Such a series of components can be categorized as a cycle. Instruments used in this study are observation guides, interview guides, field notes and documentation.

## RESULT AND DISCUSSION

The author first designs the learning scenario or instruction plan (RPP) in the planning learning with Means Ends Analysis (MEA). Some considerations should be done in the planning of means-ends analysis model: First, the preparation of scenarios in the RPP should be based on a simple problem-solving strategy based

on the students' knowledge and experience. Second, the concept or theme of group discussion should be organized creatively and actively. Third, identify the source or reference in the delivery process of the material to be applied to the means-ends analysis model. For the learning materials themselves packed as possible by always associate the material with the life of the students everyday so that students do not need to be fixated on textbooks. As expressed by Suherman (2008, p.6) stating that:

"Means-Ends Analysis is a learning model of variation between problem-solving models and syntax that presents material on heuristic-based solutions, elaborates into simpler sub-issues, identifies differences, constructs sub-issues so connectivity occurs."

In the implementation of learning process using means ends analysis (MEA) in attempt to improve high order thinking ability of students is done in three cycles. Each cycle has four meetings, the learning process is expected to improve students' thinking ability shown by group activity and written test results of students. Implementation of means-ends analysis model of learning improves in every cycle. As for high-order thinking skills developed through group discussion activities by using such a method. It is expected that students can improve high-order thinking ability through group discussion activities such as how to analyze and identify problems, provide assessments and criticism, and issue ideas based on their own thought. This can be done from group discussion activities or FAQs conducted by students and teachers. The IPS Learning through the Means Ends Analysis (MEA) model contains 3 aspects of the indicators in the high-order thinking ability of students that are C4, C5, and C6 with criteria: At (C4) the students are able to check and parse information, formulate the problem, and

Score Average	Score Quantity	Category
66,68 % - 100 %	3	Good
33,34 % - 66,67 %	2	Enough
< 33,3 %	1	Less

provide the appropriate settlement step, and there is sub indicator of C4 that is A. analyze the information and B. identify the problem. At (C5) students are able to assess, deny, or support an idea and provide reasons that can reinforce the answers obtained, and there is a sub indicator of C5 that A. provide assessment and B. accept or reject a statement. At (C6), students are able to design a way to solve problems or integrate information into appropriate strategies, and there are sub indicators of this C6 that is A. make generalizations and B. design problem solving. Having known indicators and sub indicators of high-order thinking ability that must be achieved students in learning IPS through Means Ends Analysis model then obtained the following results:

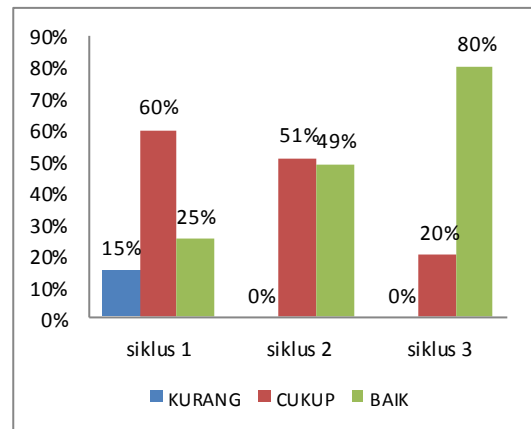
**Presentation Results Observation Group Discussion in Each Cycle:**

**Information:**

Based on the exposure table and graph above can be seen that there is an increase each cycle. Seen in the first cycle each group has shown good activity, although there are still deficiencies in some indicators that must be achieved. Meanwhile, in the second cycle each group experienced significant improvement in various indicators and in the third cycle all groups experienced an increase, although not as significant as from the first cycle to the second cycle. In this study the author also measured the ability of this high-order thinking using a written test instrument in the form of problems to be solved by students. About

material that is related by the knowledge of students based on the levels of C4, C5 and C6.

**Scores of Student Test Results In High-Order Thinking Ability in Each Cycle:**



In cycle 1 is not in accordance with what is expected by the author. Based on the assessment table above, it is clear that the

Group	Cycle 1	Cycle 2	Cycle 3
One	46,8%	69,8%	80,9%
Two	48,4%	71,4%	83,3%
Three	47,6%	67,4%	84,1%
Four	51,5%	77,7%	84,9%
Five	51,5%	76,9%	87,3%

ability to think high-order students in cycle 1 is not in accordance with what is expected, from 35 students only 9 people or by 25% achieving a high order thinking ability is evidenced by the achievement of both the predicate in the assessment cycle I and as many as 21 people or 60% of the students are in enough category and three people or 15% are in the category less so that students have not reached the ability of high-order thinking, and also seen in the average score of the class where class VIII-D only get a score of 55% so that in cycle 1 the ability to think high-order students are still in level enough.

In cycle 2, students have improved from the previous cycle but still in the enough category. We can see from 35 students only 17 people or by 49% who have reached the ability of high-

order thinking. This is evidenced by the achievement of good predicate in the assessment cycle 2 and as many as 18 people or as much as 51% of students are in the enough category and also seen in the average score of the class where class VIII-D only get 68% score so that in cycle 2 high-order thinking of students are in good enough level. And in cycle 3, students have improved from the cycle and are already in good category. We can see from 35 students, 28 people or by 80% who have achieved high-order thinking skills. This is evidenced by the achievement of good predicate in the assessment cycle 3 and as many as 7 people or as much as 20% of students are in the enough category and also seen in the average score of the class where class VIII D who scored 77% so that in cycle 3 the ability to think high-order students have been at a good level.

In this study, the provision of written test proved to increase the thinking of high-order students. This is in line with the opinion of Mundilarto (2010: p. 58) states that "the test is very appropriate to measure the ability to think high-order students."

Overall, the achievement of indicators of high-order thinking ability of students each cycle as follows:

Skls	Ability						Score	Ket.
	C4		C5		C6			
	1	2	1	2	1	2		
1	C	C	K	K	K	K	8	C
2	B	B	C	C	C	K	13	B
3	B	B	B	B	B	C	17	B

**Information:**

Category	Score
B (3)	Good 13 – 18
C (2)	Enough 7 – 12
K (1)	Less 1 – 6

Based on the above table, it describes the achievement of the indicators of high-order thinking ability of students in IPS learning. If it is divergence of each indicator, then the improvement of high-order thinking students of each indicator will be different. Indicators with the highest improvement are analyzing (C4) and evaluating (C5) as well as indicators that look weak ie creating (C6). In cycle 1, achievement of the indicator is in enough criteria which only 8 points. Based on the assessment of cycle 1, students are quite capable in analyzing and identifying problems. However, students are still lacking in judgment, accepting and rejecting a statement, generalizing an idea and designing ways to solve problems. In cycle 2, achievement of the indicator is in good category by obtaining 13 points. Students are quite capable of implementing several indicators through activities that have been designed by the author. Students are only lacking in terms of designing ways to solve problems.

In cycle 3, the achievement of indicator has been in good category with point 17. Students are good in applying indicator of high order thinking ability based on Bloom taxonomy revision. This is seen from indicator in analyzing and evaluating in good category, while in the indicator of creation is in enough category.

Based on these data there is a significant increase. It is evident from each cycle. Students can already think in depth. This is indicated by an increase in the indicator analyze (C4) and evaluate (C5) is in both category and creativity indicators (C6) on the category is quite good. As expressed by Sizer, 1992, p. 29 (in Johnson, 2008, pp. 182) which states using high-order thinking ability in the correct context teaches students "deep thinking habits, living habits with an intelligent, balanced, and accountable approach." So it can be concluded that students have been able to think deeply and students can already use the ability to think high order through means ends analysis in learning IPS.

## CONCLUSION

First, in the implementation of the second cycle, learning activities carried out in group activities and question and answer activities of teachers and students. This is done to measure the extent to which the ability of high-order thinking of students who conducted orally but has not run effectively. In the final activity the teacher gives an individual written test, but has not seen a good improvement in high-order thinking because students are still not familiar with the questions that are analytical. Second, in the implementation of the second cycle, learning activities have seen quite effective where the students began to dare to show the ability to think because of the reward in the form of additional value from teachers. And in the written test that the teacher gave, the students have experienced a pretty good improvement in thinking the high order. This happens because students are accustomed to working on the questions of the questions that are analytical. Third, in the implementation of the second cycle, the learning activities have been going well because the students will apply the learning model. This can be seen from the group activities of students that can already use the ability to think high order orally or non verbally. And on the written test given by the teacher, the students have experienced a significant increase in using the ability of high order thinking. The obstacles faced by author as follows: first, time study which is limited, due to the existence of school exam activities and national examinations in class IX. Second, the uneducated students in using means ends analysis learning model causes students difficulty in doing their activities, over time of this obstacles can be overcome. During the learning process, means ends analysis learning model increases the high-order thinking ability of the students in IPS learning, proved to be a good improvement in every cycle of action implementation.

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