Higher Order Thinking Skills in Islamic History Learning

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Abstract: Higher order thinking skills need to be mastery by someone who lives in the 21st century, to deal with an ever-changing environment and complex challenges. Aspects of thinking skills are also needed to understand and take lessons from the history of Islamic culture. Thinking skills include critical and reflective thinking about values inherent in historical facts and events. This study aims to examine the effect of problem-based learning models and learner independence on higher order thinking skills in the study of Islamic Cultural History. This study uses a quantitative approach with the population of students in 6 Purwakarta Junior High Schools. The experimental design was used in this study to test the problem based learning model. Data collection was carried out through tests and questionnaires. Data were analyzed with a 3 x 2 factorial design. This study concluded that problem-based learning and learner independence had a positive and significant influence on the high-order thinking skills of Purwakarta junior high school students. Problem-based learning and leaner independence are important aspects in an effort to improve high-level thinking skills in learning Islamic Cultural History.

1   INTRODUCTION

Critical thinking is a skill needed in Islamic learning outcomes in schools, including aspects of Islamic Cultural History. High-order thinking skills obtained from the learning process is not just reading the surface, but also learning to give consideration to the facts and historical data that exist in PAI learning. The ability to consider an action based on a value is in line with the thinking skills that students have that must be owned by human resources that live in the 21st century. In this century, people are faced with a constantly changing environment and complex challenges, which require the quality of critical thinking to deal with it, complete competence to overcome it and core skills to live their daily lives. The integrity of complex competencies and core skills is the strength and stabilizer for someone who lives in this century. To instill moral values in human resources in the 21st century, efforts are needed to sharpen high-level thinking skills, in addition to core skills in the learning process. Thinking is an important aspect of PAI learning in historical aspects, both in the process and as a result of learning. The Islamic values he taught, both iman, Islam and ihsan, were aspects of affection which

demanded a high level of understanding and thought to be easily lived and become a personal character.

The need to teach students the ability to think high must be done since elementary education. The current reality shows that PAI learning at the end of the elementary level, namely in junior high school (SMP) needs to get attention in line with nstional curriculum. Purwakarta Junior High School is a junior high school that has held more PAI reinforcement such as through civilization and extracurricular activities. These efforts can be increased to efforts to encourage students to think at a high level. At this time the data shows that the meaning of students towards extracurricular activities related to self-control obtained an average of 3.11. The meaning of self-control efforts is an average of 2.51. Similarly, the meaning of the school's religious culture is 3.3 on average (Suhartini, Nursobah, Hayati, & Yulianingsih, 2016). These data indicate that meaningful learning at the level of high-level thinking has not been obtained by students.

The national curriculum emphasizes that competencies in the cognitive domain of junior high school students must be at the level of application and analysis. In the affective domain must be at the level of respect and appreciate. Likewise, in the

domain of skills, junior high school students must be able to present and reason. The level of analysis, respect, and appreciation, presenting and reasoning are high-level thinking. This study reveal the influence of the problem-based learning model (PBL) to improve students' high-order thinking skills in PAI learning aspects of Islamic cultural history.

2 LITERATURE REVIEW

Development of higher-order thinking skills can be done through problem-solving by groups (Vijayaratnam, 2012), reasoning based on analogy (Richland & Simms, 2015), and influenced by learning styles (Yee et al., 2015), teacher's ability to learn (Yen & Halili, 2015). There are 30 learning strategies that can improve high-level thinking skills (Thomas & Thorne, 2009). Higher-order thinking skills are the key determinants for the growth of ideas in students (Heong et al., 2012). This study focuses on the learning process and assessment of high-level thinking in PAI learning aspects of the history of Islamic culture at Purwakarta Junior High School.

3 METHOD

This study uses quantitative and qualitative approaches. The experimental method with 3 X 2 factorial analysis was used to test the effectiveness of problem-based learning models on students' high-thinking skills in 6 Purwakarta Junior High Schools. Furthermore, a qualitative approach is used to triangulate the findings of quantitative data, with informants consisting of PAI teachers and students.

4 RESULT AND DISCUSSION

4.1 Result

4.1.1 Data Description

The results of the calculation of all pretest and posttest data through SPSS version 20 analysis shown in Table Descriptives obtained the average, standard deviation, standard error, minimum and maximum values and the difference between Conventional Learning Based Learning and High Level of Learning Independence, Moderate and Low in Purwakarta Junior High School. Description of

the pretest data of the PAI learning outcomes in the SKI aspect using Problem Based Learning and Conventional Learning can be seen in the following table 1:

Table 1. Data Description

Learning Independence	INSTRUCTIONAL MODEL					
	Problem Based Learning			Conventional		
	Pretes	Postes	Gain	Pretes	Postes	Gain
High	60,32	72,18	11,86	59,13	61,38	2,25
Moderate	50,61	62,00	11,39	45,31	48,63	3,31
Low	38,73	54,05	15,32	32,56	33,94	1,38

The table above shows that there is an increase in the average pretest and posttest scores of both groups (Problem Based Learning and Conventional) both from the level of high, medium and low learning independence.

4.1.2 Testing of Assumtion

In this study, the experiment group had the same ability as the control group. This is evidenced by the results of the average similarity test using the F test, using SPSS version 20, the value of F calculated = 1.643 or Sig (0.203)> α (0.05).

Data on learning independence and high-level thinking skills are assumed to come from populations that are normally distributed by showing the results of the Kolmogorov-Smirnov one-sample test using SPSS version 20 is significant at α (0.05). Similarly, variants of all data are homogeneous as the results of the variance homogeneity test with the F test are significant at α (0.05).

4.1.3 Hypothetis Testing

Hypothesis testing carried out a 3x2 factorial F-ANOVA test with p-value ≤ 0.05.*Hypothesis 1:* There are differences in the level of thinking between students who use problem-based learning models with conventional models as a whole. The results of the SPSS version 20 analysis are displayed on statistical group tables and independent samples test tables about the different levels of thinking *skills* between students of Purwakarta Junior High School using problem based learning and conventional learning. It can be concluded The overall there are differences in the students' higher thinking skills using problem based learning with conventional learning. This conclusion is reinforced by the results of the calculations shown in Table 7 above which shows the value of F = 8.824 or Sig (0,000) <½ α

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(0,025). In addition, the value of t count = 7.600 and the value of Sig (2-tailed = 0,000) <½ α (0.05) can be interpreted that problem-based learning influences the higher order-thinking skills of Purwakarta junior high school students.

Hypothesis 2: There is an Interaction between learner independence and problem based learning. The results of the SPSS version 20 analysis obtained the calculated F value of 94.602 with Sig = 0,000. Because the value of Sig <α (0.05) as follows:

Table 2. ANOVA Interaction of Independence Learning with PBL

ANOVA

PBL	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3636.937	2	1818.468	94.602	.000
Within Groups	1230.227	64	19.222		
Total	4867.164	66			

Based on the calculation of ANOVA 3 x 2 test above, it can be concluded that overall there is an Interaction between learner independence and problem based learning which affects the high-level thinking skills of Purwakarta Junior High School students.

Hypothesis 3: There are differences in the influence of problem-based learning models on the skills of higher order think among students Purwakarta junior high school with high independence. The results of the analysis show that: (a) the number of valid data is 38 people with a high level of independence (22 students with problem based learning and 16 students with conventional learning); (b) the average value of problem based learning learning classes is 72.18 and the average value of conventional learning classes is 61.38; and (c) standard deviation of 4.89 and 4.11, respectively.

Furthermore, the independent samples test table shows the difference test of two groups (problem based learning and conventional from a high level of independence). The test results show that the value of t count = 7.182 and the value of sig (2 tailed = 0,000) <½ α (0.05). Thus it can be interpreted that there are differences in the effect of problem-based learning models on the higher-order thinking skills of Purwakarta junior high school students at a high level of independence. This can be stated also that

problem-based learning is effective in improving higher-order thinking skills for students who have the characteristics of thinking such as always setting goals in learning, determining strategies to solve problems, and not quickly satisfied with the results obtained.

Hypothesis 4: There is a difference in the effect of problem-based learning models on the thinking skill of higher-order. The results of the analysis show that: (a) the number of valid data is 39 people from the level of moderate independence (23 students with problem based learning and 16 students with conventional learning); (b) the average value of problem based learning class 62.00 and the average value of conventional learning class 48.63; and (c) standard deviations of 1.84 and 2.66 respectively.

Furthermore, the independent samples test table shows the difference test of two groups (problem based learning and conventional from the level of moderate independence) indicating that the value of t count = 18.640 and the value of sig (2 tailed = 0.000) <½ α (0.05). Thus it can be interpreted that there is a difference in the effect of problem-based learning models on the high-level thinking ability of Purwakarta junior high school students at moderate levels of independence. In other words, problem based learning affects the ability to think high.

Hypothesis 5: There is a difference in the effect of problem based learning models on higher order thinking skill students with low self-reliance. The results of the analysis show that: (a) the amount of valid data is 38 people from a low level of independence (22 students with problem based learning and 16 students with conventional learning); (b) the average value of problem based learning classes 54.05 and the average value of conventional learning classes 33.94; and (c) standard deviations of 5.58 and 6.57, respectively. Furthermore, the independent samples test table shows the difference test of two groups (problem based learning and conventional from a low level of independence) indicating that the value of t count = 10.177 and the value of sig (2 tailed = 0.000) <½ α (0.05). Thus it can be interpreted that there is a difference in the effect of problem-based learning models on the high-level thinking ability of Purwakarta junior high school students at low levels of independence.

4.2 Discussion

There are differences in students' high-thinking abilities using problem-based learning models with

conventional learning in Islamic morality learning. These conclusions show that high-level thinking skills are determined by a problem-based learning model. Since the beginning of the learning, students have been faced with problems that must be solved through the process of thinking by analyzing, seeking the possibility of solving the problem and proving it through collecting information and data from various sources. This is in line with the learning theory of reflective thinking (Mahasneh, 2013) and critical thinking (Emir, 2013).

There is an interaction between learner independence and a problem-based learning model that influences students' higher-order thinking skills in Islamic Cultural History. This proves that the application of problem-based learning needs to be supported by the independence of students. But it is not always the higher the independence of students, while also being able to improve their higher-order thinking skills in learning Islamic Cultural History. Students who are of medium and low independence, an increase in high-level thinking skills is greater than students with high independence. This thinking style theory is in line with independent dependent thinking style theory (Ahiri, La Dunifa, & Ghani, 2015).

Problem-based learning models influence the ability to think higher-order in learning Islamic Cultural History for students who have high independence. This explains the interaction of problem-based learning models with independence. This also shows that students who have high independence can use a problem-based learning model to achieve high-level thinking skills in learning Islamic Cultural History. This is in line with the cognitive style theory described above (Mahasneh, 2013).

Problem-based learning model influences the ability to think high-level in learning Islamic Cultural History for students who have moderate independence. For students with moderate independence, problem-based learning models are proven to be able to improve higher-order thinking skills in learning Islamic Culture History better than students with high independence. Basically independence is showing that students cannot fully determine the choices of thinking by themselves. The ability to think high-level in learning Islamic Cultural History for students with moderate independence is widely held by the considerations of their friends. This is in line with the theory of thinking style and the tendency to solve problems (Sudarman, Setyosari, Kuswandi, & D. Dwiyogo, 2016).

Problem-based learning models affect the ability to think high-level in learning Islamic Cultural History for students who have low independence. Higher-order thinking ability in learning Islamic Cultural History that is influenced by problem-based learning for students who have low independence is proven to be higher than students with high independence and lower than students with moderate independence. This is in line with the ability to make decisions in thinking by considering input from others. Thinking analysis and evaluation requires a decision to determine the parts analyzed and evaluated (Budsankom, Sawangboon, Damrongpanit, & Chuensirimongkol, 2015).

5 CONCLUSIONS

Based on the results and discussion of the research above it can be concluded that problem-based learning and learner independence have a positive and significant effect on the higher order thinking skill in learning Islamic Cultural History in students at Purwakarta Junior High School. Problem-based learning and learner independence are important aspects in an effort to improve higher order thinking skills in learning Islamic Cultural History.

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