

## CHALLENGE OF HISTORY TEACHERS IN TEACHING AND LEARNING HIGHER ORDER THINKING SKILLS (HOTS)

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### ABSTRACT

This study aims to identify the challenges faced by teachers and the efforts made in the implementation of HOTS-based history learning. In this study, a qualitative method was used by taking research at the Lab School in Kebayoran Jakarta. The analysis was carried using Strauss & Corbin grounded theory approach. The results illustrate three interrelated things, namely the concept of HOTS used, implementation, and challenges faced by history teachers. This study shows that the difficulty faced by history teachers in teaching and learning history based on HOTS is that assessment has been carried out using the HOTS model. On the other hand, training in learning that supports HOTS has not been provided to teachers, many curriculum demands, teacher competencies/skills, lack of time in the learning process, and the learning design made by the teacher does not yet support HOTS. The efforts to answer these challenges can be overcome by (1) increasing teacher understanding/mastery of HOTS concepts, (2) the planning of learning devices arranged to suit the needs of students, and (3) during the implementation of learning using models that support HOTS namely inquiry learning.

Keywords: HOTS, history learning, teacher challenges.

### ABSTRAK

Penelitian ini bertujuan untuk mengidentifikasi tantangan yang dihadapi guru dan upaya yang dilakukan dalam pelaksanaan pembelajaran sejarah berbasis HOTS. Dalam penelitian ini, metode kualitatif digunakan dengan mengambil penelitian di SMA Lab School Kebayoran Jakarta. Analisis dilakukan dengan menggunakan pendekatan teori ground Strauss & Corbin. Hasil penelitian menggambarkan tiga hal yang saling terkait, yaitu konsep HOTS yang digunakan, implementasi, dan tantangan yang dihadapi oleh guru sejarah. Studi ini menunjukkan bahwa kesulitan yang dihadapi oleh guru sejarah dalam pengajaran dan pembelajaran sejarah berdasarkan HOTS adalah penilaian telah dilakukan dengan menggunakan model HOTS. Di sisi lain, pelatihan dalam pembelajaran yang mendukung HOTS belum diberikan kepada guru, banyak tuntutan kurikulum, kompetensi / keterampilan guru, kurangnya waktu dalam proses pembelajaran, dan desain pembelajaran yang dibuat oleh guru belum mendukung HOTS. Upaya menjawab tantangan ini dapat diatasi dengan (1) peningkatan pemahaman guru / penguasaan konsep HOTS, (2) perencanaan perangkat pembelajaran yang disesuaikan dengan kebutuhan siswa, dan (3) selama pelaksanaan pembelajaran menggunakan model yang mendukung HOTS yaitu pembelajaran inkuiri.

Kata kunci: HOTS, pembelajaran sejarah, tantangan guru.



## INTRODUCTION

History learning in Indonesia is held at the level of High School (SMA) or Vocational High School (SMK). At the elementary and junior high levels, history lessons are incorporated into Social Sciences (IPS). The difference in history from other sciences is that in learning history, it should be a shared *avontuur* (adventure) of the students and teachers. Throughout history, teachers and students will dive into one era to another, from events in a region to events in another area. In this concept, history is not just about memorizing facts that happened in the past. Still, it also requires analyzing ideas or thinking critically about the facts of the events presented to be learned. It is continuous with that found in the ordinance of the Ministry of Education and Culture No. 22/2016 concerning Graduate Competency Standards (SKL). The characteristics of learning in the Minister of Education and Culture state that knowledge competencies can be obtained through activities remembering (C1), understanding (C2), applying (C3), analyzing (C4), evaluating (C5), creating (C6). Competencies adapting from Revised Taxonomy Bloom in the cognitive domain that Anderson and Krathwohl perfected was divided into two. Starting from C1, C2, C3, it is called LOT, namely, Lower Order Thinking, while C4, C5, C6 is called Higher Order Thinking (HOT).

According to the Teaching Knowledge Test Cambridge English, The University of Cambridge (2015), Higher order thinking skills (HOTS) are cognitive skills such as analysis and evaluation that can be taught by teachers to students (Nugroho, 2018). HOTS are related to the ability to complete problems, critical thinking, and creative thinking (Sani, 2019). Higher Order Thinking Skills (HOTS) are significant in teaching and learning. Thinking skills are fundamental in educational processes. A learner's thoughts can affect the ability of learning, speed, and effectiveness of learning. Therefore, thinking skills are associated

with learning methods. Stuarts stated learned to think to represent their positive impact on the development of their education (Nava Nourdad *et al.*, 2018). From all the opinions above, it appears that HOTS is very important to build the level of students' thinking skills, not only in history lessons but HOTS is also needed for all lessons.

Muhadjir Effendy, who was Minister of Education and Culture, said, "Education in Indonesia still needs strengthening in using higher-order thinking skills as one of the international standards recognized by Indonesia. The HOTS standard involves many elements in Education. Starting from improving content, methodology, learning, teachers, student readiness, to facilities and infrastructure" (Republika.co.id, 2018). The implementation of HOTS in Indonesia is currently limited to the assessment of the HOTS model for UNBK. It is a challenge for teachers and students, while learning still uses the concept as usual, but when faced with UNBK questions, students must be able to use HOTS to answer it. If observed, there is a kind of gap that occurs. The difference can be minimized if, in daily learning practices, teachers and students are accustomed to applying HOTS.

HOTS implementation has a good effect. We should manage the classroom teaching-learning process because they have enormous benefits for learners (Mainali, 2012). If students are familiar with HOTS's thinking concepts, even they have become absorbed in their character, they are categorized as capable fulfill 21<sup>st</sup>-century skills (The 21<sup>st</sup> Century Skills). Therefore, even though history is not included in one of the lessons at UNBK, history includes lessons that form the Character Building of a nation. Thus HOTS should be implemented both in history learning and in its assessment.

The research conducted by researchers presents the latest problems based on complaints found in the initial observations in the field of teaching history that has never been done before. The previous

research used as a reference was the Thesis Gusmira Wita entitled "Analysis of Higher Order Thinking Skills (HOTS) in Sociology Learning in High School Level (Study: SMA Negeri 1 Yogyakarta and SMA Negeri 11 Yogyakarta)". This thesis was published in 2018 from UNY Post-graduate Social Sciences Education. The study aims to explore what dimensions affect HOTS and the most dominant aspects affecting HOTS students in sociology learning, as well as HOTS levels of students in high school Sociology learning. The study is using quantitative methods by taking samples from SMA Negeri 1 Yogyakarta and SMA Negeri 11 Yogyakarta as many as 196 students. Data analysis techniques used Exploratory Factor Analysis (EFA) and Rasch model analysis. The difference in the reference thesis with this research is the subject of the subject studied, the components used to analyze, and the research method. This study focuses on analyzing the efforts of teachers in the implementation of HOTS-based history learning.

Based on the above explanation, then after searching for schools that have applied HOTS learning both in the form of assessment and its implementation to learning, the researcher finally conducted the research process at Lab school High School Kebayoran. Observations and interviews were conducted until finally found some interesting facts. There is no specific training related to the implementation of HOTS in learning. It causes the teachers are still looking for strategies/models that can support HOTS to be applied appropriately in the design of learning, one of which is history. Through these facts, this study aims to find data and information about the challenges of history teachers in teaching and higher-order thinking skills (HOTS) learning.

## RESEARCH METHOD

The method used in this study was qualitative research with the *grounded theory* approach of Strauss and Corbin (2003). The technique is adapted using several systematic procedures to develop *grounded*

theories that are arranged inductively about a phenomenon. The aim is to compile an approach that is following and explain the field under study. In its application, the procedure is in the form of data collection, data analysis, and several *coding* methods. Furthermore, it is detailed in the process of analyzing data through the process of data reduction to focus on analyzing data on the *central phenomenon* that is being observed and examined. At the time of this study, the data analysis process was carried out by compiling and preparing various data from observations and interviews (transcripts) with teachers and principals and several students regarding HOTS-based history learning in class. After that, coding from the results of data retrieval is done following the categories.

From the results of the analysis of data made by the researcher, then conclusions and syntheses will be constructed, which will be written using principles that are easy to understand. Encoding the results of data retrieval using a method of classifying based on themes found in the phenomenon of learning at the research site. In this case, the researcher will see themes in the category of learning history separately. The first is the concept of learning, while the second is its application, and the third is the challenge encountered in learning. The classification is based on the sub-focus of the research that will be examined, then translated into the categories that will be used from the coding process. This study also applies triangulation techniques with checks through other sources (combining observation, semi-structured interviews, and documentation). Triangulation with the intended source is testing the credibility of the data carried out by checking data obtained through several sources (Sugiyono, 2017). For example, the researcher will triangulate data between data obtained from interviews with lesson plans documents and from the classroom learning process witnessed by the researcher. If the data is appropriate based on the research that has been designed, the data can be processed and analyzed for discussion. If there is a

discrepancy between the two data, the researcher will confirm to the informant to reach clarification.

## **RESULTS AND DISCUSSION**

### **Hots concept Used By Teachers in Teaching and Learning History**

Learning in the implementation of K13, which uses a scientific model, is currently recommended by the Government to lead to HOTS. Through HOTS, schools are expected to produce graduates who are able to meet the demands of the era that are in line with the Industrial Revolution 4.0. As the results of research in the field, one of the history teachers of SMA Lab school Kebayoran (SR, 2019) said that the perception of HOTS indicators used in teaching and learning was adapted by combining Bloom's taxonomy with Anderson's revision. The HOTS concept used by SR in daily learning is analyzing, synthesizing, and creating.

In practice, analyzing can be done by giving students questions that make them able to categorize the material into sub-sections and determine the connections between the sections. For example, students are given assignments or items to look for the names of kings from the Hindu Buddhist period, so students will analyze who the names of kings are in the days of Buddhist Hinduism. Citing Limbach's words that teachers should use questioning techniques that can stimulate students to develop HOTS (Limbach & Waugh, 2010). Through these questions, students will analyze, then synthesize the results of the analysis. While for creative activities carried out by inviting students to make learning media. The thing that has been applied by the History Teacher of Lab school Kebayoran is the project of making fossils.

In developing the level of students' creations in history lessons, the teacher had tried to apply HOTS in history method material about historiography. Students are invited to make autobiographies. Autobiographies made are not just about the students themselves, but they must make biographies of several

generations above them. The teacher hopes that through this program, students indirectly learn about social history, apply historical methods, and try to bring historical awareness to their students' personalities. Autobiography is designed with the condition that students interview all related primary sources, whether their parents, grandparents, caregivers, or able to tell about social situations such as what happened based on the sources obtained when the student was born. Through the learning process, students can use the abilities they have mastered today in the future. Everything that students have done can be used as a knowledge base. If at any time, it is necessary to recall the process for the knowledge students has mastered in the past.

### **Application of HOTS in Teaching and History Learning**

The use of HOTS in the teaching and learning process in Indonesia has not been formally disseminated in its training for teachers. The background of HOTS in Indonesia is that when the PISA (Program for International Student Assessment) study was conducted, Indonesia ranked in the bottom five, this made the government start implementing so that HOTS questions were included in UNBK for the first time in the 2017/2018 school year. It encourages schools to hold HOTS training in their test questions or examinations, and the most important is how to apply HOTS in learning. This point is that the practice has not been carried out by schools in Indonesia. In fact, learning still uses learning; as usual, only the questions are changed to HOTS (RD, 2019).

Regarding HOTS in the assessment, Bambang Suryadi said that the aim was to encourage students to do high-level reasoning so that they were not fixed on a pattern of answers generated from the memorization process without knowing the concept of science. HOTS is one of the skills in the 21<sup>st</sup> century that is critical, creative, collaborative, and communicative thinking. The HOTS model assessment was also trained to pursue the backward-

ness of the Indonesian nation at the international level, especially those related to the PISA results held every three years. Whereas about the learning process, Awaludin Tjalla, Head of Puskurbuk, expressed the need to harmonize the learning and assessment process regarding the national Education standard (BSNP, 2018).

When the research took place at SMA Lab school Kebayoran, the application of HOTS in the learning process had been carried out by several teachers but not massively. It is because the basis is from how the preparation of HOTS questions is then applied to learning, not to the HOTS concept in education, because these teachers have not received the training. What should have happened is not reversed, the questions have been applied, but the learning training has not been implemented (RD, 2019). When conducting an interview with a history teacher (SR, 2019), he said that the first thing to be distinguished was the HOTS learning process and HOTS learning evaluation process (evaluation). In the measurement process, the teacher has been advised to make HOTS questions but has not been directed to the HOTS learning process. The process should be reversed: HOTS learning process first, then the HOTS learning outcomes measurement process. As a result, the teacher searched for himself how HOTS learning methods or strategies related to the learning process applied by SR in developing HOTS learning through two stages. That stage is (1) doing the meta forming process on myself as a teacher to get HOTS learning methods/strategies, and (2) developing the results of learning methods or procedures with Benjamin S. Bloom's Taxonomy guide.

### **Challenges of Historical Teachers in Teaching and Learning Higher Order Thinking Skills (HOTS)**

Based on the facts of the research at SMA Lab school Kebayoran, there are several challenges faced by teachers in teaching and learning HOTS. The problem is that the assessment has been using the HOTS

model, but its learning has not been applied to using HOTS. Training for teachers regarding HOTS-based learning has not been provided. Until now, teachers who want to apply the HOTS learning process in the classroom are still looking for how to use the model following their separate ways (RS, 2019; SR, 2019).

The challenges of the curriculum demand are many, while the equipment provided by the government is not enough to cover it. Case in point: when the teacher is assigned to complete the HOTS questions module in his learning, while the time given in the learning process is insufficient, there are many curriculum demands. It makes the practice chaotic, so sometimes, if the school whose system is not ready to face this condition, it cannot apply HOTS learning in the classroom (DS, 2019).

The next challenge is teacher competence or skill. Teacher competency influences how a teacher designs the way he teaches and how to arrange a series of learning designs that will be applied in the classroom. As teachers are confused themselves, they sometimes think that they are teaching them; in reality, they can just inducing lower-level thinking among their students (Rajendran, 2002; Sparapani, 1998). On the contrary, some teachers may be aware that they have been conscious of integrating the HOT in their instruction all this while (Zohar, 1999). The integration of HOT into the curriculum is being compromised (Yen & Halili, 2015; Zohar & Schwartz, 2005).

In the preparation of HOTS learning designs, the steps teacher goes through must be as effective as possible. The teacher should design HOTS-based learning in the classroom so that with a mature strategy. HOTS learning process is carried out, and HOTS questions are conveyed, so there is no shortage of time given in teaching. It is because all the teachers felt that they did not have enough time to teach HOTS (Semana, 2017). In the design of learning, the teacher must know some learning methods. Through various variations of teaching, it is expected that stu-

dents remain focused as long as the teacher teaches, and the learning process takes place. It is crucial so that later the outputs produced from Educational products can meet 21<sup>st</sup>-century skills.

#### **Teacher's efforts to overcome challenges**

There are some challenges facing history teachers in teaching and learning history, demanding efforts to overcome these challenges. Teachers face some difficulties implement HOTS-based learning. The training supports HOTS has not been given to teachers. The demands of many curricula, teacher competencies/skills, time, and design of learning made by teachers, can be done through a teacher's understanding of the HOTS concept and manifested in the lesson plan. Efforts to overcome the aspects of planning from observations at SMA Lab school Kebayoran have been quite good. The teacher has tried to prepare the lesson plan to suit the needs of his students. Efforts to find the latest sources are always sought and able to utilize various learning resources. Teachers and schools also try to adopt the latest policies applied in education. In overcoming all the challenges, history teachers sometimes discuss this with fellow history teachers/peer discussions. The exchange of ideas carried out by the teacher with fellow history teachers is an effort to make improvements in the planning of learning and implementation of learning (Ahmad *et al.*, 2014). While in the practice of implementing learning to support HOTS, learning models that supported HOTS were also carried out. One strategy to design learning to familiarize HOTS is inquiry-based learning (Nugroho, 2018).

#### **Discussion**

After each interview and focus group discussion, we discussed and compared our observations, understandings, and interpretations (Patton, 2002). The interview was summarized to identify key concepts; this was done by one researcher and confirmed by the other. These summaries were also used to develop and validate the concepts and themes (Schulz & Fitzpat-

rick, 2016). Processing themes is done through coding. The first coding process which is done is regarding the HOTS concept used by the teacher. The second process is about the implementation and, finally, the challenges faced by history teachers in teaching and learning HOTS. When the coding review process is complete, proceed with an analysis to interpret the results of research on HOTS in history learning.

HOTS are essential aspects of teaching and learning. Thinking skills are fundamental in the educational process. A person's thoughts can affect the ability, speed, and effectiveness of learning. Here, thinking skills are associated with learning methods. Students who are trained to think of demonstrating a positive impact on the development of their education are able to learn, improve their performance, and weaknesses (Yee *et al.*, 2011). The concept that is not less important is about teacher knowledge about HOTS. If the teacher understands HOTS well, then the teacher can apply quickly in teaching. It is as the following quote:

...the levels of knowledge among teachers have a very positive relationship with the level of interest shown by teachers in HOTS. There is no denying that teachers who have good knowledge of these skills will be clearly more interested in exploring this skill in terms of use of resources, methods of presentation, and sharing of information with colleagues. (Ramasamy *et al.*, 2016)

In the previous cognitive domain proposed by Bloom, HOTS consisted of analyzing abilities, synthesizing abilities, and evaluating skills. Then revised by Anderson at the HOTS level to be the ability to analyze, ability to assess, and ability to create (Sunaryo, 2012). The division of HOTS based on Bloom's Taxonomy is shown in the figure 1.

HOTS in history learning is the ability of students to determine the relationship of each historical event. Able to evaluate by developing critical thinking on past events. Also, take lessons from events

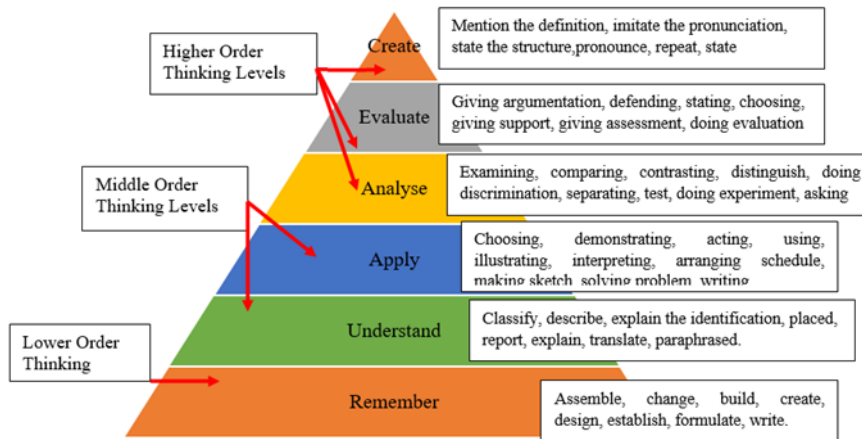


Figure 1. Bloom's Taxonomy HOTS - MOTS - LOTS.  
Source: Anderson and Krathwohl (2001) modified in Hanifah (2019).

Table 1. The Bloom Table of the taxonomy of dimensional revision and Examples of operational verbs for higher thinking order.

The Knowledge Dimension	The Cognitive Process Dimension		
	C4 analyze	C5 evaluate	C6 create
Factual Knowledge	Making structure, classifying	comparing, correlating	joining
Conceptual Knowledge	explain, analyze	Examine, interpret	planning
Procedural Knowledge	distinguish	conclude, resume	Arrange, formulate
Metacognitive Knowledge	create, find	Make, assess	realization

that have occurred and take positive values to be applied in the present in solving problems wisely. Historical not only extended learning, the genuine understanding of history. It also deals with many aspects of human life, including emotions, logic, and so forth. Students need to understand why and how people make decisions (Harris, 2016; Utami, 2019). Students' ability to understand why and how decisions are made in the past. It is what can trigger and develop HOT students' skills. In this study, the HOTS indicator practiced by history teacher (SR) at SMA Lab school is shown in the figure 2.

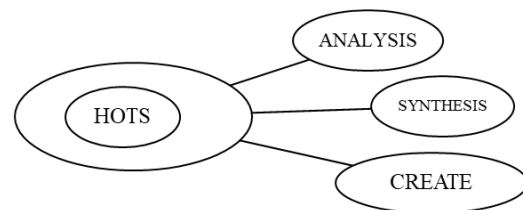


Figure 2. the HOTS indicator practiced by history teacher in Lab School

The definition of the description of HOTS indicator, which is, the analytical ability is the ability to show the relationship between parts in a problem and can see the cause of an event (Sudrajat, 2011). Evaluation ability is the ability to evaluate

solutions, work procedures, processes, and determine criteria that are suitable according to standards and effectiveness in various ways (Sunaryo, 2012). Creation ability is the ability to combine elements to form a new and unique structure, design ways, and find multiple solutions (Brookhart, 2014). The ability to synthesize is the ability of students to deduce thinking results based on critical thinking processes and analysis results. The indicator is often used by the teacher to show the extent of the development of HOTS students.

Development at the HOTS level of students is expected to be able to produce graduates who are in accordance with 21<sup>st</sup>-century skills so that teachers in teaching and building the learning process must support the development of HOTS. Teachers can develop thinking skills by identifying the level of thinking of students in dealing with problems (Budiaman, 2016). Teaching and learning in the 21<sup>st</sup> century more focus on student-centered and independent learning, project-based learning, and collaborative learning, as well as authentic assessment (Şener, Türk, & Taş, 2015). Application of HOTS in pedagogy and assessment for example, through inquiry-based learning and high-level questioning in pedagogy and assessment, could promote HOTS among students and directly improve student achievement (Boaler & Staples, 2008; Franco, Sztajn, & Ramalho, 2007; T. Sulaiman *et al.*, 2017).

Teachers to improve and develop students' higher-order thinking skills utilize and use different strategies. However, teachers must know specific skill thinking (Abosalem, 2016). Learning with HOTS can predict the level of success of students through learning. Higher-order thinking skills (HOTS) are one of the crucial aspects of education. Students with a high level of higher-order thinking skills tend to be more successful (Tanujaya, Mumu, & Margono, 2017).” By doing HOTS questions, students can give suitable answers based on their thinking ability so that teachers know how good the students

thinking ability is (Kusuma, Rosidin, & Suyatna, 2017). Consequently, teachers would be more able to improvise various settings and strategies to suit the students' needs (Saïdo, *et al.*, 2015).

## CONCLUSION

Based on the results of the analysis and discussion, findings can be obtained, namely the concept used by one of the history teachers at the Lab school Ke-bayoran High School using the HOTS concept, which refers to the combination of Bloom's taxonomy with Anderson's revision. The HOTS indicator used consists of analysis, synthesis, and creation. In its application in learning, the HOTS indicator was developed by the teacher in providing material, assignments, and test questions. Implementation to prepare student HOTS raises several challenges faced by history teachers when teaching and learning using HOTS. The problem is training for teachers in using HOTS to teach, and in the learning process has not been socialized. The training provided by the government is only limited to socialization in assessments using the HOTS model. Another challenge is the demand for many curricula, teacher competencies/skills, lack of time in the learning process, and the design of learning made by the teacher not yet supporting HOTS. The effort to answer the challenge is to pay attention to the following matters (1) teacher understanding/mastery of the HOTS concept, (2) the planning of learning devices arranged to suit the needs of students, and 3) during the implementation of learning using a model that supports HOTS namely inquiry learning. Therefore, in the learning process, both teachers, schools, and various stakeholders must be able to work together to facilitate students in improving their thinking skills, so they can produce graduates who meet 21<sup>st</sup>-century skills.

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