



Teacher's Ability in Making Higher-Order Thinking Skill Questions in 21st Century Historical Subjects

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Abstract: This article aims to determine the ability of history subject teachers in making HOTS (Higher Order Thinking Skills) based questions. The method used in this paper is a literature study, the use of relevant sources that are used as data sources to broaden the perspective in this pape21st-century learning requires higher-order thinking skills including critical thinking, communication, collaboration, ion and creativity known as the 4Cs. The teacher in this case plays an important role in encouraging the cognitive growth of students through history learning. One way that can be done is through HOTS (Higher Order Thinking Skills) based assessments, where the questions made by the teacher must be able to improve the cognitive abilities of students in terms of analyzing, evaluating, and creating. Higher Order Thinking Skills (HOTS) based questions can help students discern ideas or opinions, learn more deeply, argue well, solve problems, construct explanations, make hypotheses, and understand complex things more clearly.

Keywords: History Teacher Ability, HOTS, 21st Century Skill



Introduction

Professional educators (teachers) have a major role in teaching, instructing, guiding, training and evaluating students through formal education. (Hassanudin, 2010). Meaningful learning must be created by a teacher to hone skills and increase students' learning motivation, through active, creative, critical, and fun learning the demands of 21st-century teaching skills. According to Nabila & Nana (2020), the importance of mastering 21st Century Skills, students are able to develop life skills and soft skills which include critical thinking and problem solving, creativity, communication, and collaboration skills. This becomes homework for teachers to get present fun learning but provide critical and creative effects for students.

In Law no. 14 of 2005 Teachers and Lecturers, teachers' requirements must at least master four competencies, namely pedagogic, personality, professional, and social. With Teachers mastering these four abilities, teachers have a great opportunity to succeed in carrying out their responsibilities as educators. In line with Juprianto (2018), teachers can improve students' existing abilities, one of which is critical thinking. Training students' critical and creative thinking is not enough only in the educational process but also needs to be trained in the assessment process or evaluation activities (Ali et al, 2021).

Evaluation is an important component that must be carried out by the teacher and is useful for determining the results of achieving the learning objectives themselves. (Siregar & Lestari, 2018: 1698; Mahirah, 2017: 260; Novytasari, 2014). Therefore, to see success in the learning process can be seen from the quality of the assessment tools used. Assessment of learning outcomes currently focuses on the HOTS capabilities needed in the 21st century (Abidinsyah et al., 2019; Saputri et al., 2019). According to Lewy et al (2009, p. 15), the basis of higher-order thinking is Bloom's Taxonomy. This thinking is based on some types of learning that require a higher level of cognitive processing than others but have more general benefits.

According to Anderson's revised taxonomy, cognitive processes are divided into low-order thinking skills (LOTS) and high-order thinking skills (HOTS). The abilities included in LOTS are the ability to remember, understand, and apply, while the cognitive process domains included in the high-order thinking skills HOTS are the domains of analyzing, evaluating, and, creating. All of which need to be trained (Anderson et al., 2001). Questions based on HOTS help students to learn more deeply, can understand concepts better and students are can develop their understanding well. Through HOST, students are able to argue, solve problems, be able to explain, be able to make hypotheses, and understand complex things more clearly.

Budiman & Jailani (2014, p. 142) explained, the problem faced by teachers today is the lack of teacher ability in developing HOTS assessment instruments. in Faridah's research (2019), it is explained the preparation of evaluation questions by SMAN 2 Sidoarjo teachers in history subjects is not yet based on HOTS, because history teachers still use many factual questions and do not classify cognitive levels.

The phenomenon occurs when the teacher's competence is still low in understanding the rules of preparing questions, which will affect the quality of the questions to be used. Likewise, developing students' cognitive abilities can be done by developing Quality Questioning, where quality questions can develop students' thinking skills (thinking through quality questions) (Walsh and Sattes, 2011). From the description above, the purpose of this article is to examine the capabilities of history teachers in making evaluation materials or HOTS-based questions.

Method

The method used is literature study, which is done by reading and studying in depth the relevant sources in the research. This paper wants to examine the ability of teachers to make High Order Thinking Skill questions in the 21st century.

Findings and Discussion

Education is a way for humans to increase the dignity and quality of humans themselves. School is also seen as a means of improving one's abilities and skills. Education in this era is followed by technology developments, and the rapid flow of globalization must be balanced with the skills of teachers who are the main players in education. Therefore, a teacher must have competence in him which will be useful in managing to learn and can make innovations that build the competence of students. Musfah (2012, p. 27) argues, that teacher abilities are a combination of personal, technological and spiritual skills that produce professional teacher competency standards and cover mastery of the material, understanding of students, educational learning, personal and professional progress.

However, according to Karnaningsih, Sulton & Husna (2021, p. 52) at this time teachers do not evaluate themselves on the skills they have, teachers only focus on low student learning outcomes because of low interest in learning.

A teacher must have more value than other teachers, teachers should have high competence to carry out their teaching duties. The teacher must be able to measure the abilities that students have achieved in each lesson process that has taken place so that teachers can determine decisions or steps to be taken in the future. Therefore, a history subject teacher is at least able to compile test and non-test instruments, which can improve students' HOTS in analyze, evaluate and create. Therefore, history teachers must have abilities in the form of knowledge, skills, and behaviors that must be possessed, internalized, mastered, and realized by teachers in carrying out their professional duties (Sulfemi, 2016, p. 53).

The history subject in high school examines various historical events, especially in Indonesia which aims to build collective memory so that students learn about their national identity (Batubara & Sudrajat, 2019, p. 336). Zulkarnain (2017, p. 40) also explains that the purpose of learning history is as a foundation for shaping the life of the nation and state at present and in the future. And according to Hasan (2017) the five goals of historical education are as follows:

1. Increasing students' awareness of the importance of time and place, namely a process of past, present and future.
2. Develop critical skills to properly understand historical facts based on academic approaches and methodologies.
3. Increasing students' appreciation and respect for historical heritage as evidence of the civilization of the Indonesian nation in the past.
4. Deepen understanding of the process of building the Indonesian nation that will take place both now and in the future, after going through a long history.
5. Growing awareness among students as part of the Indonesian nation which has a sense of pride and love for the homeland which can be translated into various layers of society both nationally and internationally.

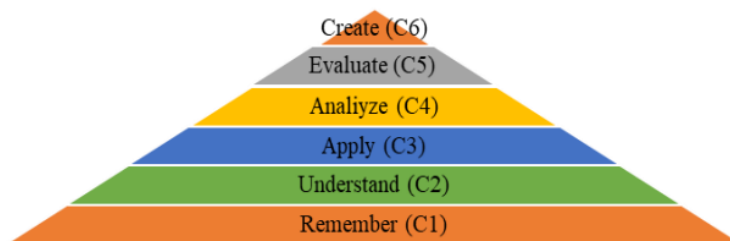
To find out the achievement, teacher skills are needed to evaluate learning outcomes in improving students' HOTS abilities in accordance with 21st-century skills. According to Pi'I (2016, p. 198) in carrying out assessment results In learning, most history teachers still tend to carry out assessments at the cognitive level, namely Low Order Thinking Skill (LOTS) thinking with items that require "memory" behavior. The tendency of teachers in making questions is not guided by the test grid, causing students to be less trained in Higher Order Thinking Skills (HOTS) (Batubara & Sudrajat, 2019, p. 337).

And the results of Ayuningtyas' research (2013) explain the teacher's tendency is to use the questions contained in the supporting book in the form of LOTS questions. This shows that the teacher's ability to make questions still has obstacles in the teacher's understanding of HOTS and the ability of teachers who are not yet qualified in making HOTS-based questions that can develop students' critical thinking power.

According to Anderson & Krathwohl (2001), the level of thinking ability starts from remember, understand, apply, analyze, evaluate, to create. The level of thinking skills, remember, understanding, applying is categorized as LOTS. Meanwhile, the level of thinking ability, analyze, evaluate, create is categorized as HOTS. Anderson and Krathwohl (2001) also explain higher-order thinking

levels. Analyzing is describing materials or concepts into parts and determining the relationship between parts or the relationship of parts to the overall structure or purpose. Evaluating is giving an assessment based on criteria and standards through examination and criticism. To create is to incorporate elements to form a coherent whole into a new pattern for generating, planning, or producing.

Gambar 1
Piramida ranah kognitif (Anderson dan Krathwohl, 2001)



The process of compiling questions based on the revised bloom taxonomy is a skill and knowledge related to efforts to increase at the level of education and learning. The process and results of education lie in the teacher's ability to teach and compile and analyze questions. Learning outcomes as an indicator of teaching quality are determined by the quality of the questions and the level of questions made by the teacher. Therefore, teachers in this era must be able to create and develop HOTS-based questions that not only test intellectual abilities in terms of memory but also test the ability to evaluate, create, analyze and think critically understanding the subject matter, but emphasize more thinking. Critical thinking on problem-solving.

Setiawati (201) explained that the application of HOTS in the evaluation of learning, was reflected in the questions therein by students. So, the questions used must go through a good writing process, where the teacher can refer to the operational verb formulated for each cognitive level. In writing the HOTS form of questions, the question writer is required to be able to determine the behavior to be measured and to formulate the material that will be used as the basis for the stimulus in a certain context. Based on the Education Assessment Center Team



(2019, p. 9) the steps for writing HOTS questions or high-level thinking are divided into four steps, namely:

1. Determine the basic competencies and materials to be assessed. Before making an evaluation question, the teacher must first analyze the cognitive process, the dimensions of knowledge and the material to be used, whether it is contained in the curriculum and can be used to make questions about high-level thinking skills.
2. Assemble the grid. Teachers need to ensure that the components in the grid are consistent, and aligned and can be used to create HOTS-based questions.
3. Formulate the question indicators. To produce HOTS-based questions, it is necessary to formulate useful indicators to meet the principles of assessment on skills, namely the need for stimuli, new contexts, and a higher-order thinking process.
4. Write questions according to the rules of writing questions. It is useful to ensure the quality of questions that are useful for providing valid information, where the questions need to meet the rules of writing questions from the aspect of construction, substance, and language used.

HOTS-based, questions. Subakti (2021, p. 59) believes that the implementation of HOTS in Indonesia is still very low, especially for historical subjects. The low level of HOTS implementation among students is caused by teachers focusing more on students' limitations in conceptual understanding, reasoning and problem solving abilities. (Eggen & Kauchak, 2012). The development of higher-order thinking skills HOTS (Higher Order Thinking Skill) is intended to be a bridge for students to have critical and creative thinking skills by being able to connect various learning activities experienced into everyday life.

But, teachers, in this case, have many difficulties, such as research conducted by Winarti, et al (2021) explaining based on the results of interviews, that teachers find it difficult to make HOTS questions, compiling HOTS questions are not an easy thing because the questions made must begin with a stimulus that is an introduction to the question and the teacher finds it difficult to distinguish the level of thinking in the cognitive aspect. And in Fitriawati's research (2019) it was stated that of the 50 questions analyzed in history subjects, there were 46 (92%)



questions that did not comply with the preparation guidelines or questions that were not based on HOTS and there were only 4 (8%) questions. which contains elements of HOTS, based on this percentage the researcher suggests that the questions are not suitable for use or must be improved.

Based on the description above, it can be explained that 21st-century skills require that teachers and students be able to learn to keep up with the times, which aims for education in Indonesia to produce human resources who are capable and able to compete in the social world. One way that teachers can do to support this development is through learning that can improve the thinking skills of participants in the realm of higher-order thinking (HOTS). However, in reality, the teacher's ability to compile Higher Order Thinking Skill questions is very lacking (Fatmayanis 2016). This can be an input for teachers to be able to further explore their potential so that they can write HOTS-based historical learning evaluation questions.

Conclusion

HOTS (Higher Order Thinking Skill) is an important skill in the 21st century that must be understood by both students and history teachers. Higher Order Thinking Skill (HOTS) is a concept in the cognitive domain, which consists of three categories, namely analyzing, evaluating, and creating. These three categories are the highest level in the cognitive domain. The teacher in this case has the responsibility of building HOTS in students through functioning evaluation questions, knowing the extent to which students understand their learning and higher-order thinking skills will be achieved if students can connect, compile and develop new information with the information provided. Has had to find a solution to the confusing situation that confronted him. But in fact, there are still many teachers who have difficulty in developing HOTS-based questions.

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