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Teachers' Strategies to Implement Higher-Order Thinking Skills in English Instruction

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Abstract

This study investigated English teachers' strategies to implement HOTS (Higher-Order Thinking Skills) during the learning process. To prepare students for education 4.0, Indonesian government has mandated that HOTS are taught in every level of education. The research aimed to discover how English teachers implemented HOTS in their teaching strategies. HOTS are promoted in the 2013 curriculum in which English teachers should develop their strategies to implement these skills through student-centered learning instead of teacher-centered learning that may be a common phenomenon for teachers in Indonesia. The participants of the study were fifteen senior high school English teachers in Salatiga, and five of whom were interviewed and observed. The data were obtained through questionnaire, interview, and observation. The data analysis involved counting the percentage for the questionnaire and reading collected transcripts from the interviews and the observation notes. The data analysis was processed using descriptive statistics for the questionnaire and coding for eliciting the transcripts and observation notes. The results of the study showed that the effective teaching strategies in using HOTS were asking open-ended questions and encouraging students to give their critical opinion, while also acting as a facilitator.

Keywords: Education 4.0, effective teaching strategies, English teachers, Higher-Order Thinking Skills

Introduction

English teachers in Indonesia are demanded to use HOTS during the teaching process. Since the establishment of the 2013 Curriculum (henceforth K-13) that promotes Higher-Order Thinking Skills (HOTS), English teachers have been encouraged to use HOTS during the learning process. Nowadays, English teachers should have been familiar with HOTS in teaching students. In order to use HOTS, teachers should involve students during the learning process that promotes activities beyond comprehension. The activities should promote analysis, synthesis, and evaluation.

In Bloom's taxonomy (Bloom, 1956), HOTS is defined as skills beyond knowledge and comprehension that consist of analysis, synthesis, and evaluation. According to Narayanan and Adithan (2015), the cognitive skills promoted in HOTS that include synthesis and creation can be defined in the forms of assembling, designing, formulating, and developing. In other words, HOTS implementation requires teachers to facilitate students to apply their knowledge during the learning process.

Teachers acknowledge the difficulty in implementing HOTS (Ganapathy, Singh, Kaur, & Kit, 2017). It is difficult because teachers in Indonesia are used to applying a teacher-centered approach. The teachers need to learn how to adapt to a student-centered classroom. In a teacher-centered learning environment, teachers may give too much exercise to the students. Thus, the students may only learn facts rather than the deeper concept from the learning materials. Furthermore, teacher-centered learning usually focuses on the exercise where the teachers control the students instead of involving the students. As a result, the students only comprehend without having a deep understanding to apply the knowledge (Bernaisch & Koch, 2016). This reality can be seen clearly in the previous practices of Indonesian national examination that contradict K-13 basic principles. While K-13 promotes deep understanding to apply knowledge, the knowledge is only measured by a multiple-choice test.

In order to teach English using HOTS, teachers should promote critical thinking. Critical thinking is associated with reasoning, decision-making, and problem-solving (Willingham, 2008). Teachers can provide either open-ended questions to make the students think critically or problem-solving exercises that enable students to analyze the problems in doing the exercises. Paul and Elder (2008) argued that multiple-choice questions are rarely practical in real life, but the tasks that require critical thinking can make the students apply their knowledge in real life. When the students can apply their knowledge, the highest state of HOTS, namely creation, may be achieved.

HOTS is originated from Bloom's taxonomy that has been used as an instructional framework to establish teaching and learning results (Bergmann, Sams, & Bruss, 2015). The revised version of Bloom's taxonomy provides six levels of learning skills, namely remembering, understanding, applying, analyzing, evaluating and creating. The top three levels of Bloom's taxonomy (i.e., analyzing, evaluating, and creating) are generally recognized as higher-order thinking skills (HOTS). Lewis and Smith (1993) defined HOTS as an event when a person gets new information, saves it in their memory, and interconnects the information to

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find possible options in complicated situations. Furthermore, Crawford and Brown (2002) categorized HOTS into three concepts of thinking that includes content, critical, and creative thinking. Moreover, Bloom's Taxonomy can be utilized to identify HOTS in the levels of application, analysis, synthesis, and evaluation (Bradshaw, Bishop, Gens, Miller, & Rogers, 2002).

According to the study conducted in Malaysia by Ganapathy et al. (2017), lecturers often used HOTs activities in their classrooms. They found that 72.5% of English lecturers agreed that thought-provoking questions and ideas exploration are common HOTs activities in their classes. Zuraina (2009) and Abdul, Rafiza, Chun, Razak, and Lee (2012) also found similar findings in using HOTS. They found that lecturers facilitated their students to answer the assignments using brainstorming and creative thinking. Furthermore, they also found that oral presentations were common activities for English lectures to help students to develop their critical thinking and to maintain interaction between teachers and students.

The enactment of K-13 that is originally to promote HOTS student-centered learning, however, is not fully implemented by the teachers. Most teachers tend to promote teacher-centered learning. According to Polly and Ausband (2009), teacher-centered learning environment is characterized by a great amount of teachers-led exercises and hence, total control on their students. As a result, the students will learn more facts rather than a deeper comprehension of the concept of knowledge. The learning process does not go beyond the three lowest levels of Bloom's taxonomy. Furthermore, Newmann (1987) mentions that developing students' higher-order thinking skills might be constrained because it "involves hard mental work." Indonesian students are used to memorizing every material given by the teachers. Thus, it takes a lot of effort to change the students' habits to be able to develop their critical thinking. The government and teachers need to work hard to reform the teaching culture in the classroom.

The results of the researches on HOTS, at least in the past two decades, show that HOTS did not occur automatically in most students' learning. Therefore, HOTS should be taught directly and explicitly to them during the learning process (Snyder & Snyder, 2008). The teachers in Indonesia are expected to teach the students using a method called FRISCO. Based on the guide book on how to teach using HOTS from the government (Ariyana, Pudjiastuti, & Bestary, 2018), the basic element for critical thinking is called FRISCO. Below are the elements of FRISCO and its definition.

Table 1: Basic Elements for Critical Thinking

Elements		Definitions
F	*Focus*	Able to identify the problem.
R	*Reason*	Able to give logical reasons for the problem
I	*Inference*	Able to conclude the problem based on adequate reasons
S	*Situation*	Able to compare the problem with current situations

C	*Clarity*	Able to provide clear explanation in the argument, leading to credible conclusions
O	*Overview*	Able to check something that has been found, decided, noticed, studied, and concluded

Calderón, Slavin, and Sánchez (2011) argued that there is controversy among educators, policymakers, and researchers about how to make sure the English learners to acquire the target language. Furthermore, they explained that the teachers are still trying to find a suitable teaching method to guarantee students' target language acquisition. They discovered that in the 1960s, most schools in the US with large numbers of non-native English learners proposed various programs to teach English learners using Spanish, Chinese, English, and other native languages as a medium of instruction. They proposed HOTS as a teaching method to maximize the students' exposure toward the target language. However, the regulation to teach English using HOTS is new for most of the Indonesian teachers.

Goldenberg (2013) found that there are various studies on effective teaching practices using HOTS. He mentioned that the teaching practices using HOTS should include clear goals and objectives, appropriate and challenging material, and well-designed instruction and instructional routines. In order to teach HOTS, teachers should set clear learning goals and objectives that promote the development of students' critical thinking skills. The teachers also need to provide appropriate material that is not too easy or too difficult for students to understand. The material should include activities with open-ended questions to make the students think critically. Students' critical thinking skills do not emerge overnight, so the teachers should frequently give the students various HOTS activities in each meeting to make the students familiar with HOTS.

Dunn and Dunn (1979) found that learners are influenced by the environment (sound, light, temperature, and design), their own emotionality (motivation, persistence, responsibility, and need for structure or flexibility), physical needs (perceptual strengths, intake, time, and mobility), and sociological needs (self, pair, peers, team, adult, or varied). They claim that students can identify their suitable learning styles, score higher on tests, have better attitudes, and are efficient if they are taught using a teaching method that they can easily relate. In order to effectively teach using HOTS, the teachers need to familiarize the student-centered learning environment where the students are involved during the learning process.

This study has an attempt to investigate the English teachers' effective teaching strategies that implement strategies using HOTS. The research objective is to find out how English teachers implement HOTS in their teaching strategies. Since HOTS are promoted in the new curriculum, English teachers should have their own strategies to implement HOTS.

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Method

This research used mixed methods to analyze the data. According to Creswell (2014), a mixed method study is a study that collects, analyzes, and integrates quantitative and qualitative data to answer research questions. Quantitative data is defined as numeric data for groups' comparison. The numeric data in this study is in the form of average percentage based on the questionnaire. Meanwhile, qualitative data is defined as text data based on interviews and observation notes

Context of the Study

The setting of the study was in senior high schools in Salatiga. The research was an attempt to investigate teachers' strategies in implementing HOTS during the learning process. High schools in Salatiga were chosen because these schools are accessible to conduct research.

Research Participants

The participants of the study were fifteen English high school teachers in Salatiga. The research focused on teachers' strategies in using HOTS during the learning process in the classroom. The researchers distributed questionnaires and carried out semi-structured interviews and direct observation.

Data Collection Instruments

The study used three data collection instruments. The data collection instruments were questionnaires, semi-structured interviews, and direct observation. Questionnaire was chosen to obtain an overall measure of the attitudes and opinions of the participants. The questionnaire consisted of 20 Likert scale questions and two open-ended questions (see the Appendix). Semi-structured interview was selected since it imparted flexibility and provided rooms for generating questions. Next, a non-participant observation was used to limit the distraction to the students being observed.

Data Collection Procedures

The data collection procedures took several steps. First, the English teachers filled the questionnaire to find out the general information. Second, five out of fifteen teachers were chosen as samples and interviewed to find out their strategies to use HOTS during the learning process. Third, the teachers were observed to validate their answers on the interview. The observation can support and may give some addition to the data from the interview. The observation can be used to validate the answers to the interview.

Data Analysis Procedures

The data analysis involved counting the percentage for the questionnaire by means of descriptive statistics and also interpreting the transcripts as well field-notes generated from the observation. The interview transcripts and the observation notes gathered and classified into categories. The purpose was to identify the teachers' strategies in using HOTS during the learning process. The study used thematic analysis because it is a flexible method to conclude the result from the study

Findings and discussion

Implementing HOTS in Teaching

The diagram below demonstrates the teachers' perception of using HOTS in their teaching.

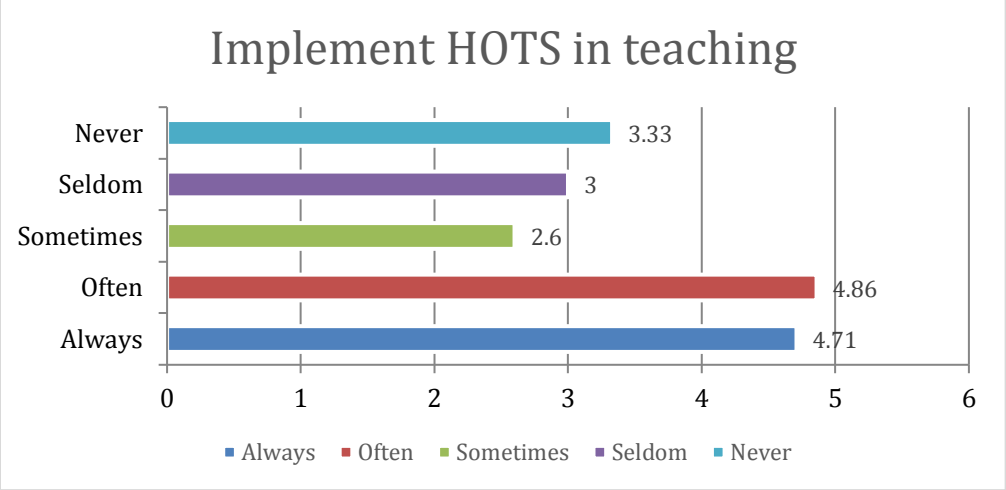

Figure 1. Teachers' Perception of Using HOTS

Based on the questionnaire, 52% of English teachers claimed that they almost regularly implemented HOTS during the teaching process. However, based on the observation, the teachers only implemented the steps of the scientific approach (questioning, observing, associating, experimenting, and networking) based on the 2013 curriculum during the learning process. The teachers assumed that using a scientific approach was equal to implementing HOTS in the classroom. It is emphasized by Bloom (1956) that HOTS are a set of skills beyond knowledge and comprehension that promote analysis, synthesis, and evaluation. On the other hand, most of the teachers only used comprehension questions in their scientific approach teaching method.

Meanwhile, there are 34% of English teachers who were seldom and never used HOTS in teaching even though it is compulsory for the 2013 curriculum. These teachers thought that HOTS was not suitable for their students. They argued that the students in their classroom were not suitable to be taught using HOTS. The teachers found that drilling was more effective teaching strategies than HOTS. As evidence, one of the teachers said that he/she was still in favor of the teacher-centered classroom.

> *"I use HOTS because it is compulsory, Indonesian students are not ready for HOTS. I am still using teacher-centered learning method. I always drill my students, so they will be able to comprehend the material(s). HOTS does not help my students to have better comprehension. It is just a burden for us, teachers, to implement it. Students are assessed using tests that check their comprehension using multiple-choice questions every semester. Therefore, our students do not need HOTS." -Dominicus*

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It is clear from the above statement that Dominicus argued that the students in the teacher's school were not ready for HOTS. The teacher preferred to use drilling for the students instead of HOTS. Multiple-choice questions only check students' comprehension instead of their critical thinking (Paul & Elder, 2008). On the other hand, HOTS require critical thinking activities rather than comprehension checking questions.

Moreover, other teachers mentioned that they were using HOTS because it is compulsory in the 2013 curriculum. They were not sure whether HOTS are suitable for Indonesian students. The teachers were more confident to promote teacher-centered learning rather than student-centered learning. The teachers acknowledged the difficulty of shifting from their traditional teaching method into HOTS (Ganapathy et al., 2017).

> *"I always use HOTS during my teaching because it is compulsory. I am just following orders from the government, even though HOTS is not an effective teaching strategy for our students. HOTS do not make my students smarter. In fact, HOTS make my students get bad results. I cannot do anything because the regulation makes us implement HOTS. I have tried to talk about this in the forum with the policymakers, but nothing happens." –Ira*

Ira seemed to be hopeless as she did not have the power to change the regulation. She had tried to give her a report about HOTS implementation in her classroom to the policymakers.

> *"I am just following government regulation. The government demands us to use HOTS in our teaching. I know, it is not suitable for students. What can I do? I am just a teacher. I need to follow the regulation, even though it is hard. Whatever happens, I implement HOTS in my classroom. It works a little in developing students' critical thinking, and my students still can get good results." –Eden*

Furthermore, Eden also implemented HOTS because it is compulsory regulation from the government like Ira. However, she claimed that her students could get good results, unlike Ira's students. Based on my observation, she did not fully implement HOTS during her teaching. She only gave around 20 minutes from total 90 minutes teaching period in one meeting for HOTS activities. She used a drilling method that was similar to Dominicus to enhance students' comprehension.

While the previous teachers were not comfortable in implementing HOTS, the other two teachers (Willi and Joy) claimed that they were able to use HOTS during the teaching process successfully. They claimed that they were able to promote HOTS effectively during the class by giving the students some open-ended questions to the students. These teachers said that they were able to develop students' critical thinking skills.

> *"I am good at using HOTS in the class. I can promote HOTS when I teach my students. I can help my students to develop their critical thinking using open-ended questions. They also got good scores." –Willi*

Teacher 2 claimed that he could implement HOTS effectively during the class. He always used open-ended questions to help students to develop their critical

thinking. Willingham (2008) emphasized that teachers can include an open-ended question to foster students' ability to think critically. Based on my observation, he did not judge whether the students' answers were right or wrong. He was aware that every student's answer would be different. He wanted to make the students feel safe when they gave their answer. After he asked the students tried to answer, he would proceed to explain the learning material without telling which students gave the right answer. He wanted the students to find out on their own whether their answer was right or wrong. He was very successful in making his class became active.

> *"I am very good at using HOTS because I can make students think critically. I give my students thought provoking questions to make them think. I am aware that my students do not get good results. It is okay because they are not yet able to think critically." –Joy*

Joy assumed that she was very good at implementing HOTS. She claimed that she was able to raise thought-provoking questions to help her students to develop their critical thinking skills. However, during the observation, she only raised difficult questions for the students. Joy expected that difficult questions were equal to HOTS. In contrast to Teacher 2, the students in Joy's class were passive. The students could not answer her questions, so they had to open their books or notes to answer. The class was LOTS instead of HOTS because the teacher asked the students to find specific information from their books and notes instead of giving the students the opportunity to share their opinion toward the learning material.

Using HOTS Activities

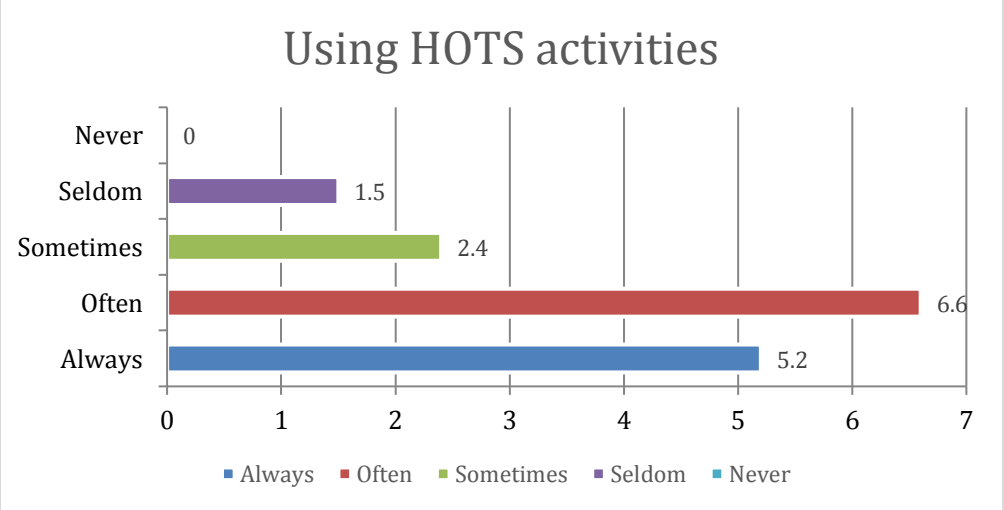

Figure 2. The Frequency of HOTS Implementation

Based on the questionnaire, 75% of English teachers almost regularly used HOTS activities in the classroom. The HOTS activities were activities that promoted critical thinking exercises, for example, giving problem-solving activity, making reflection, asking open-ended questions, and conducting presentations (Abdul et al., 2012; Zuraina, 2009). However, some teachers actually raised difficult

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questions instead of HOTS questions. They assumed that difficult questions were HOTS, and it was good to improve students' critical thinking skills.

> *"I ask difficult questions to the students to develop their critical thinking. I want my students to develop their critical thinking skills. The class will be silent for a moment because they are taking time to think. Now, that is HOTS! Asking difficult questions always work." –Joy*

Joy assumed that raising difficult questions equal to HOTS. On the other hand, difficult questions are not always HOTS. Joy only asked about the difficult question that promotes students' memorization on a learning material. The teacher argued that difficult questions helped the students to be able to think critically. However, raising difficult questions only made the students recall the previous meeting materials.

Furthermore, 15% of English teachers sometimes used HOTS activities. These teachers combined comprehension checking and critical thinking activities during their teaching. The teachers used comprehension checking activities because their students could not pass the minimum score target using HOTS. The teachers were aware that HOTS made their students got bad results. However, they still had a sense of responsibility to follow government regulations to use HOTS.

> *"Most of the time, I give my students an open-ended question and problem-solving activities. I want to hear the students give me an unexpected answer. It is fun to hear the students' point of view that can blow my mind. I also combine my classroom activities with traditional pen and paper exercises. I want them to get good scores." –Ira*

Ira used open-ended questions and problem-solving activities as her HOTS activity in her classroom. She enjoyed listening to her students' opinions in her classroom despite the fact that she used HOTS because it is compulsory. She combined comprehension and problem-solving questions during her class. She used to fill in the blanks exercises to check the students' comprehension and writing exercises for problem-solving activities. However, the portion of comprehension questions in the exercises was bigger than the problem-solving questions.

> *"I am using open-ended questions and case study to teach using HOTS. I use open-ended questions to find out my students' point of view toward the material and problem-solving activity in the form of case study. Sometimes, I ask my students to do a presentation to check their speaking skills. I also ask them to make a reflection after I finish teaching a material. Well, I also include comprehension questions to check my students' understanding." –Willi*

Willi used open-ended questions, case studies, presentations, and reflections for his HOTS activity. He asked the students to do the HOTS activities at the end of the class, and he chose different kinds of HOTS activities for every meeting. He included various HOTS activities to make his students engaged during the learning process in the classroom because he understood that students would be

bored when they were given the same activities repeatedly. Similar to Ira, he combined comprehension and problem-solving questions in his teaching. However, the portion of HOTS activities was bigger than comprehension questions. The teachers should teach HOTS explicitly and directly during the learning process (Snyder & Snyder, 2008).

Furthermore, 10% of the English teachers seldom used HOTS activities in their classrooms. The teachers rarely used HOTS activities during their teaching. Polly and Ausband (2009) argued that a teacher-centered learning environment could make students learn more about facts rather than applicable knowledge. On the other hand, the teachers were usually accustomed to teacher-centered learning and aware that HOTS was not an effective teaching method for their students.

> *"I am using open-ended questions so that the students can share their opinion in the classroom. I rarely use other HOTS activities. I rarely use problem-solving questions and reflections, but sometimes I ask my students to do a presentation to check their speaking skills. To be honest, I use a lot of comprehension questions because most of my students could not answer the problem-solving questions. I do not want my students to become demotivated because of HOTS. I want them to learn, not confused." –Eden*

Eden focused on students' comprehension rather than their critical thinking skills. She assumed that HOTS made her students confused. Problem-solving questions made her students became passive because they did not know how to answer such questions. The students were accustomed to LOTS questions rather than HOTS questions. Based on the observation, she used open-ended questions to start the class. She used it as a hook to make her teaching became engaging. During the teaching process, she gave the students comprehension exercise to check their understanding. She believed that using comprehension questions was more effective than problem-solving questions. The students could get better results using LOTS questions rather than HOTS questions.

> *"I use problem solving activities just like what the government wants us to do. Well, basically, I am just asking them to write their opinion on a piece of paper. It is just a regular writing exercise for me. I focus on my students' comprehension. I give them drills. They only need to be familiar with English." –Dominicus*

Dominicus only used problem-solving activities as his HOTS activity. He assumed that problem-solving activity was just writing exercise. He used it to find out students' understanding by asking the students to write a paragraph using the language feature that they had just learned. Moreover, he used drilling to give the students exposure to the target language. He believed the students needed a lot of exposure to the language instead of the ability to think critically. In order to develop students' higher-order thinking skills involve hard mental work (Newmann, 1987), especially in Indonesian setting where both teachers and students are accustomed to promote lower-order thinking skills.

Encouraging Students to Use HOTS

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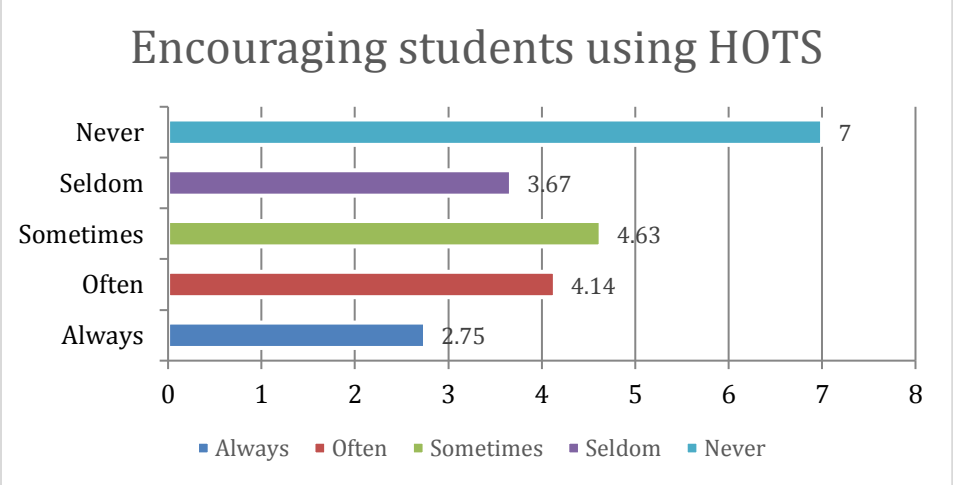

Figure 3. The Frequency of Giving Encouragement to Use HOTS

Based on the questionnaire, there were only 31% of English teachers who almost regularly encouraged their students to learn using HOTS. Teachers who encouraged their students to use HOTS were teachers who had a deep understanding of HOTS. The teachers had the ability to include critical thinking and problem-solving activities without confusing their students.

> *"HOTS make my students able to think critically. It is a new teaching method for Indonesian that can be used to make our education system better than before. It is not easy for teachers, like us, and students to use HOTS. Honestly, the department of education does not give an adequate training program. Teachers need more training programs from the government, so they can really understand HOTS and how to use it in their classroom." – Willi*

Willi was in favor of using HOTS because he believed that HOTS could change our education system. Willi was one of the teachers who had a deep understanding of HOTS. He had the capability to establish student-centered learning environment. Bernaisch and Koch (2016) mention that student-centered learning is better than teacher-centered learning because the students are expected to be involved during the learning process. He could make the students active during the class. He involved the students during the learning process, so the students had the confidence to share their opinions in front of the class and high curiosity when they were learning.

> *"HOTS make my students can develop their critical thinking, but it does not make my students get good results. However, I like the idea of using HOTS. I want to see my students think when I am teaching. I don't want them to come to school just to sit and listen to the teacher. I want them to get involved and become active. Therefore, I will encourage them to learn using HOTS" –Joy*

Similar to Willi, Joy would encourage her students to learn using HOTS. Although she assumed that HOTS questions are equal to difficult questions, her

students could get good results. She wanted her students to be active and involved during the learning process. Although she promoted more LOTS than HOTS, she had efforts and willingness to try to implement HOTS in her classroom.

Meanwhile, 48% of English teachers were seldom and never encouraged their students to use HOTS. The teachers preferred using drilling to make students had better comprehension. Since the students' assessments were based on multiple-choice tests that promote LOTS instead of HOTS, the teachers had to give the students more LOTS exercises rather than HOTS exercises. Narayanan and Adithan (2015) said that HOTS implementation requires teachers to encourage students to criticize and able to apply their knowledge instead of just understanding the learning materials.

> *"The students are not ready for HOTS, and my students keep getting bad results. I cannot implement it 100% in my class because my students do not have the willingness to learn using HOTS. I have to admit that our students are used to be spoiled. As a teacher, I always give a direct explanation to my students instead of letting the students figure out the material by themselves. Therefore, it is hard for me to shift my class from teacher-centered to student-centered. I could not encourage them to use HOTS, if I, myself, their English teacher could not fully understand it." –Eden*

Eden argued that the students in her school were not ready to be taught using HOTS. In fact, her students got bad results when they were taught using HOTS. It was hard to make her students critical because the teacher used to explain the material directly without involving the students. The students framed as silent listeners instead of active learners. Moreover, the teacher also admitted that she did not fully understand HOTS. Therefore, she thought it would be better not to teach her students using HOTS.

> *"The students do not need HOTS if the assessment criteria are only focusing on comprehension, not creation. HOTS make my students get bad scores. I will stick to my usual drilling method. It is effective and efficient. To be honest, I don't really know HOTS and how to use it. We, English teachers, need thorough training on how to teach using HOTS. I feel that the previous training was just on the surface. The education department does not give the exact example of how to teach using HOTS. Well, I don't understand HOTS, then I shouldn't encourage my students to use it." –Dominicus*

Meanwhile, Dominicus argued that the students did not need HOTS because the assessment focused on comprehension instead of critical thinking. The teacher chose to use drilling rather than HOTS because HOTS made the students got bad results. Similar to Eden, he also did not understand HOTS and how to implement it in a classroom. According to the teacher, the government did not give adequate training on how to teach using HOTS for English teachers. Since the teacher did not understand HOTS, so he would not encourage the students to use HOTS.

> *"I don't encourage students to use HOTS because they did not get good results in their study. I know HOTS are ideal for making our education better. However, it is hard for us to implement in our classroom. It's not easy to switch from teacher-centered to student-centered teaching. We need more training from the department of education, especially for English teachers.*

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Math and science teachers always get more training portion. They get in-depth training about HOTS, but we only get the definition." –Ira

Furthermore, Ira also would not encourage his students to learn using HOTS because his students got bad results. He believed that HOTS could bring positive development for Indonesian education system. He found that it was difficult to change from teacher-centered to student-centered teaching methods. Calderón, Slavin, and Sánchez (2011) also found that it is difficult to change a fossilized teaching culture. Similar to previous teachers, Ira also did not understand how to teach using HOTS. The teacher said that the government did not give enough training for English teachers.

Conclusions

English teachers in Indonesia are mandated to use HOTS during the teaching process since the 2013 Curriculum (K-13). Nowadays, therefore, English teachers should be familiar with HOTS in teaching students. In order to use HOTS, teachers should engage students during the learning process that promotes activities beyond comprehension. The activities should promote analysis, synthesis, and evaluation.

The study demonstrates that around 52% of English teachers almost regularly implemented HOTS during their teaching process. Nevertheless, the teachers assumed that the implementation of HOTS was equivalent to the implementation of the "scientific approach" (questioning, observing, associating, experimenting, and networking).

Moreover, 75% of English teachers almost regularly used HOTS activities in the classroom. The HOTS activities used during the class were problem-solving, reflection, open-ended questions, and presentation. Some teachers actually raised difficult questions instead of HOTS questions. They assumed that difficult questions were HOTS, and it was suitable to improve students' critical thinking skills.

Surprisingly, there were only 31% of English teachers who encouraged their students to learn using HOTS. The numbers of teachers who really had a deep understanding of HOTS were minimal. Most of the teachers did not have a good understanding of HOTS because the government did not give them enough training on how to use HOTS. They use it simply because it is a compulsory program from the government.

Given the above conclusions, the recommendation for further research can be divided into two parts. First, since most of the English teachers were having difficulties in implementing HOTS in their classroom as they did not fully understand HOTS, and was not provided with adequate training programs, further research can focus on the kinds of training programs for improving teachers' capacity in implementing HOTS for the students. Second, considering that students often apparently did not have the willingness to think critically, further research can investigate how passive students who did not want to be involved during the learning process can be facilitated with more stimulating learning strategies to improve their critical thinking.

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Appendix:
The questionnaire distributed to teachers concerning the implementation of HOTS in their English instruction

No.	Questions HOTS Implementation	1	2	3	4	5
1	I implement teaching activities that promotes HOTs.	8	7			
2	I am using brainstorming activities during the learning process.	4	2	5	3	1
3	I am using problem solving during the learning process.	7	5	2	1	
4	I am using project-based learning during the learning process.	4	7	4		
5	I am using interactive lectures during the learning process.	5	9		1	
6	I create the classroom into an idea exploration environment.	2	3	1	6	3
7	I stretch the students' thinking beyond reading.	3	1	1	4	6
	AVERAGE	**4.71**	**4.86**	**2.6**	**3**	**3.33**
	HOTS activities					
1	I discuss higher-level questions with students.	5	6	3		
2	I ask students to engage in oral presentations	8	6	1		
3	I ask students to reflect on their experience	3	7	4	1	
4	I prompt students to make hypothesis	4	6	3	2	
5	I prompt students to explain their thought processes that promotes a solution	6	8	1		
	AVERAGE	**5.2**	**6.6**	**2.4**	**1.5**	
	Encouragement to Use HOTS					
1	I encourage students to debate analytically to challenge pre-existing beliefs.	1	1	2	4	7
2	I encourage students to draw inferences.	2	1	3	5	4
3	I encourage students to apply newly taught skills in varying contexts.	4	5	6		
4	I encourage students to reflect on how content is related to real world knowledge.	7	7	1		
5	I encourage students to analyze functionally (to understand the purpose of something).	2	7	6		
6	I encourage students to analyze critically (to understand the consequences/implications of something).	2	3	10		
7	I encourage students to synthesize information.	1		2	2	10
8	I encourage students to evaluate information.	3	5	7		
	AVERAGE	**2.75**	**4.14**	**4.63**	**3.67**	**7**

Scale: 1- Always 2- Often 3- Sometimes 4- Seldom 5- Never

Adapted from Promoting Higher-Order Thinking Skills via Teaching Practices (Ganapathy et al., 2017)