



Higher Order Thinking Skills in EFL classrooms: Evidence in five secondary schools

Hilma Suryani

English Education, Faculty of Teacher Training and Education, State Islamic University Sultan Thaha Saifuddin, Jambi 36361, Indonesia

Article Info

Article history:

Received 3 April 2023

Revised 22 May 2023

Accepted 9 June 2023

Available online 15 December 2023

Keywords:

2013 curriculum,
English classroom,
higher order thinking skills

Abstract

The standard of process of primary and secondary education in 2013 curriculum implemented in Indonesia explicitly includes Higher Order Thinking Skills (HOTS) in learning principles. HOTS have become the skills that the learners should have for global competition. The English teacher must be able to create the proper instruction to promote students' higher order thinking skills. This study investigates how teachers implemented HOTS in the English classroom. It is a multiple case study involving twelve English teachers from five senior high schools in Jambi city. They were selected in terms of their teaching experience and the accreditation of the schools. The data were collected by using interview, observations and documents (lesson plans). The researcher organized the data from the interviews covering the participants' responses related to the implementation of HOTS in the learning stages, and justified the data from the interview by using the field notes and teachers' lesson plans. The data were analyzed using thematic analysis. There were two major themes found in this study, namely, (1) complete implementation of HOTS, and (2) partial implementation of HOTS.

© 2024 Kasetsart University.

Introduction

The advancement of information and technology in the 21st century has significantly changed society. There are demands to have upgraded skills for global competition. Currently, the skills needed in the education world and work field are known as 21st century skills. They are not the same as the ones in 20th century (Tican & Deniz, 2019). The skills include learning creativity (creativity and innovation; critical thinking and problem

solving; communication and collaboration), literacy skills (information literacy; media literacy; ICT literacy) and life skills (flexibilities, adaptabilities; initiatives and self-management; social and cross cultural skills; productivity and accountability; leadership and responsibilities) (Partnership, 2017). In line with the framework proposed by Partnership for 21st learning (P21), the Indonesian Ministry of Education and Culture stated that the learning pattern of 21 century stresses the learners' competence in finding out from various sources, problem formulation, analytical thinking and collaboration as well as problem solving (BNSP, 2010).

E-mail address: suryanihilma@gmail.com.

<https://doi.org/10.34044/j.kjss.2024.45.1.11>

2452-3151/© 2024 Kasetsart University.

This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

In Indonesia, based on the 2013 curriculum, the implementation of 21st century skills is known as 4Cs (Communication, Creativity, Critical Thinking and Collaboration). The activities such as analysing, evaluating and reasoning are included in the gradation of knowledge and skills in the 2013 curriculum (Anonymous, 2013). Owning the critical thinking skill, the learners are expected to be able to solve any problems independently.

The implementation of Higher Order Thinking Skills in the 2013 curriculum is the consideration of the result of the survey conducted through PISA in 2011. The result of study conducted by PISA revealed that the average score earned by Indonesian students was 396, which is below the average score of OECD, 496 (Organisation for Economic Co-operation and Development [OECD], 2014). This indicates that Indonesian students' Higher Order Thinking Skills are still low. The students are not used to critical thinking and problem solving reasoning.

A number of studies have been conducted in order to examine the implementation of Higher Order Thinking Skills in EFL classroom. Researchers investigated how Higher Order Thinking Skills were employed in lesson plan (Haryati et al., 2021; Putri & Sulistyaningrum, 2021), the strategies to foster students' Higher Order Thinking Skills (Djami & Kuswadono, 2020; Gozali et al., 2021; Mursyid & Kurniawati, 2019) and Higher Order Thinking Skills in evaluation (Ilham et al., 2020; Musliha et al., 2021; Nada & Melani, 2021; Utami et al., 2019). In Indonesia, the study on the implementation of Higher Order Thinking Skills in three learning stages, preparation, teaching and learning process, and evaluation, is scarce.

Hence, this present study aims at investigating Higher Order Thinking Skills in EFL classroom in terms of preparation, implementation, and evaluation. This study is expected to give insights for students and practitioners by depicting how HOTS are carried out in the EFL classroom. Moreover, it is expected this study will enrich the literature of the practices Higher Order Thinking Skills in Indonesia. This study attempts to answer the following question: How are Higher Order Thinking Skills undertaken in the EFL classroom in terms of preparation, implementation, and evaluation?

Literature Review

Bloom Taxonomy

Higher Order Thinking Skills are the top three levels of cognitive domain in bloom's taxonomy. In 1956, Benjamin Bloom and his colleagues developed

classification system of thinking skills. The system is known as Bloom's Taxonomy. It is classified into six classes namely, knowledge, comprehension, application, analysis, synthesis and evaluation (Bloom et al., 1956). Bloom's taxonomy is used to classify curriculum objectives and question items to determine the scope of objectives and question items in all categories (Krathwohl, 2002). Anderson and Krathwohl updated the old version of Bloom's Taxonomy known as Revised Bloom's Taxonomy (RBT) and ordered the cognitive process from the level of remembering to the higher level, which is creative and critical thinking process (Anderson & Krathwohl, 2001). In Revised Bloom's Taxonomy, the categories are converted into active verbs and the order is changed. RBT includes 'remember', 'understand', 'apply', 'analyze', 'evaluate', and 'create'.

Higher Order Thinking Skills has a wide range of interpretations. Brookhart defines Higher Order Thinking Skills in terms of three categories such as transfer, critical thinking and problem solving (Brookhart, 2010). The instructional goals can be derived from these categories. A teacher can equip the students to attain them. As transfer, students are able to comprehend and apply skills and knowledge. As critical thinking, it means that students are able to do the reflection, reason and produce wise judgment without being intervened by teachers or others. As problem solving, students are able to find and create the solution.

2013 Curriculum

In Indonesia, based on the standard of process, the learning process comprises planning, implementation, evaluation and monitoring (Permendikbud, 2016). Standard of process deals with the guidelines or stages for the teachers when giving the instructions in the classroom to create effective, efficient, and innovative learning. The regulation of the Indonesian minister of education and culture number 22 of 2016 mandates that learning process in educational units must be interactive, inspiring, fun challenging. It should raise the students' motivation to engage actively in the classroom, provide sufficient space for initiative, creativity and independence in accordance with students' interest, physical and physiological development.

As stated in the regulation of Indonesian minister of education and culture number 22 of 2016 on curriculum implementation, the planning of learning process includes syllabus and lesson plan containing identity of subject, standard competence, basic competence, indicator of competence achievement, the assessment of learning

outcome, learning objective and learning source. In relation to the implementation of learning process, the 2013 curriculum requires the teachers to include a scientific approach. The principles of a scientific approach involve student-centered learning, learning to cultivate students' self-concept and learning promoting students' cognition. The authentic assessment approach is needed in order to assess the learning outcome. This approach evaluates students' readiness, learning process and outcome comprehensively.

Higher Order Thinking Skills in the English Classroom

In planning the instruction, Higher Order Thinking Skills are included in the learning objectives and indicators of competency achievement. Higher Order Thinking Skills is a key point in the development of learning indicators. Indicators of competency achievement should be congruent with HOTS concept in Bloom's taxonomy; 'analyze', 'evaluate', and 'create' (Purwati et al., 2022). A teacher should be able to use the measurable and observable verbs classified in Bloom's taxonomy cognitive domain when developing the indicators of competency achievement. King et al. (1998) mentions that in implementing HOTS based learning, there must be activities stimulating students' analytical, evaluation and creation skills, this can be attained if learning takes students as the center (active learning). HOTS cannot be taught directly to the students (Yee et al., 2011). HOTS can be developed through active learning and student-centered learning (Akyol & Garrison, 2011; Limbach & Waugh, 2010) or the active role of teacher in planning, implementing and evaluating HOTS based learning (Barteil, 2013).

A teacher can make use of strategies to foster students' higher order thinking skills. Learning activities designed can assist the teacher to train the students' Higher Order Thinking Skills (Retnawati et al., 2018). Cooperative learning strategies, questioning strategies and learning and thinking strategies are three strategies to boost Higher Order Thinking Skills (Teimourtash & YazdaniMoghaddam, 2017). Some other ways to cultivate Higher Order Thinking Skills in the EFL classroom, especially writing skill, are paraphrasing, comparing and contrasting, questioning, reasoning, analyzing, the use of graphic organizers, problem solving, inferring, giving examples and making connections between concepts (Singh et al., 2020). According to Chun and Abdullah (2019), mind mapping, constructivist learning, problem based learning, inquiry and brainstorming can be employed in the English classroom.

In terms of assessment, the teacher can figure out whether or not the implementation of HOTS in learning process influences students' critical thinking. The assessment that includes HOTS gives the impact on the teaching of students' Higher Order Thinking Skills (Johansson, 2020). According to Arter and Salmon (1987), the skills used in HOTS assessment include problem solving and decision making. Further, Brookhart (2010) states that HOTS assessment covers the ability of transferring one concept to another, critical thinking and problem-solving skills.

Methodology

The present study employed a multiple case study, which aims to find out how Higher Order Thinking Skills is carried out in EFL classrooms, and took more than one case (five schools) to be investigated. In a multiple case study or collective study, a number of cases studied together are used to analyze "phenomenon, population or general condition" (Stake, 2005). Conducting a multiple case study enables the researcher to gain more profound understanding through extensive explanations and descriptions as well as to see processes and outcomes across all cases (Creswell, 2012).

Participants

This study involved twelve English teachers from five public senior high schools in Jambi city. Purposive sampling was used in this study. All of the participants had taught English for more than eight years. The schools were the top five public senior high schools in Jambi. Institutional Review Board (IRB) is not common in Indonesia, so the submission was not made. Instead, the researcher provided the participants with an informed consent form in order to protect their human's right. The participants agreed if the data given could be used before they were interviewed. The names of participants and the identity of schools are assigned pseudonym, 'P' for participant and 'S' for school. P1, P2, and P3 are teachers at S1. P4, P5, and P6 are teachers at S2. P7, P8 and P9 are teachers at S3. P10 is a teacher at S4. P11 and P 12 are teachers at S5.

Prior to the research, the researcher submitted the research permission letter to the schools where the research was conducted, and informed the participants that the confidentiality of the data collected were kept including the identity of the participants. If there was an emergency, the participants could draw themselves as the participant.

Data Collection

In collecting the data, interviews classroom, observations and documents were used. Semi-structured interview was employed as primary method of data collection. Before the interviews took place, the researcher distributed the interview protocol containing interview procedures and list of questions to the participants. The questions are related to the general description of HOTS in English classroom, how teachers perceived HOTS, what operational verbs the teachers used in indicators of competence achievement written in lesson plan (What operational verbs do you use when formulating indicators and learning objectives?), how the teachers convey the lessons (whilst activities) and how the teachers assess the students, what type of evaluation the teachers used. Each interview took 20–30 minutes. Classroom observations were conducted in order to find out how teachers implemented Higher Order Thinking Skills during the teaching and learning process. The researcher jotted down and video-recorded the learning activities from pre activities to post activities. Additionally, the documents were used to figure out how Higher Order Thinking Skills was implemented in the planning stage. The researcher examined the documents (lesson plans) to find the operational verbs, learning strategies and learning activities. The lesson plans that were examined were those used by the participants in classroom observations.

Trustworthiness

The trustworthiness of the study was achieved by applying triangulation and member checking (Creswell, 2014). The researcher performed triangulation in the study through data analysis from three sources, interview, observation, and document. Member checking was used in order to verify the accuracy of results of the study and interpretations. The researcher handed in the data obtained from the interview and field notes to the teachers and asked them for the permission to use the data.

Data Analysis

In a multiple-case study, the data obtained are analyzed in a different way from a case study. According to Merriam (2009), multiple case study has two phases of analysis, namely, the within-case analysis and the cross-case analysis. The former analysis requires the researcher to analyze each case extensively. As the researcher completes analyzing each case, cross-case analysis is carried out.

The interviews were transcribed verbatim. The researcher read the transcripts and checked the field notes as well the documents at the same time to find out the operational verbs, strategies and the cognitive level in the assessment used by the teachers, and categorized the operational verbs and cognitive levels by referring to the revised Bloom's taxonomy. Meanwhile, the strategies were determined by the steps of teaching and learning activities. The thematic analysis was used in order to find out how the teachers implemented HOTS in the planning, teaching process and evaluation stage.

Results

This section highlights how HOTS are undertaken in three stages of learning (planning, implementation, and evaluation) in the EFL classroom. Based on the coding analysis, two themes emerged, (1) complete implementation of HOTS, and (2) partial implementation of HOTS. The description of each theme is as follows:

Complete Implementation of HOTS

Based on the data of interviews, field-notes and documents, eight participants from three schools were found implementing HOTS completely in three stages of learning. In the interview sessions, the participants revealed:

“The students were given several questions that led them to identify the theme of story and identify the plot of story and at last they created the plot of story.”

(P3, S1).

“The students are able to analyze the expressions of giving opinion given in text or conversation and eventually the students are able to produce or create a statement, opinions or arguments using giving opinion expressions.”

(P5, S2).

“The operational verbs are only verbs such observe, analyze, synthesize, create that come from the basic competence, giving and asking help and offer, the students are able to use the expressions.”

(P9, S3).

The data presented above demonstrated that the English teachers have implemented Higher Order Thinking Skills through the operational verbs formulated in the learning objectives and indicators of competence achievement. The verbs such as analyze and identify are at C4. Create, produce and express are the operational verbs of C6.

In the implementation stage, based on the data of interviews and field notes, the participants employed the strategies to promote students' critical thinking such as problem based learning, collaborative learning, brainstorming, discussion and questioning. In the light of the strategies applied, the participants reported, for example:

"I grouped the students and got them to discuss the issue given and present the result of discussion."

(P1, S1).

In the observation session, P1 grouped the students. She gave each group a series of pictures to observe. P1 had the students discuss and propose the recommendations based on the pictures. The students were also asked to give the solutions related the problems presented in the pictures. Once the students finished the discussion, one of the representatives of each group presented the result of discussion in front of the class. The teacher invited other groups to give comments and opinions.

Another participant employed collaborative learning. In the implementation, she reminded the students of the assignment given from the previous meeting. The students were assigned to find the untitled narrative text from the internet. They worked in groups to determine the generic structure. The students presented the findings. In the interview, the participant reported,

"I divide the students into several groups. Let's say there are eight groups. One group consists of four students. Afterwards, the students are asked to find the folklore from Jambi or other provinces in Indonesia. The students find the generic structure of the text they get. When the students find the orientation, I ask which one is the orientation. The students discuss more on it to find out. At last, the students mention the moral lesson, title, and setting."

(P7, S3).

Two English teachers from two different schools were found employing questioning strategy in their classroom. For example:

"I start the activities by asking the students several questions related to the topic. Sometimes I also address the questions which are not related to the material to draw the students' attention, simple questions related to their routines."

(P4, S2).

Based on the observation, the teacher (P4) asked the students some questions related to the adjectives that might be used in the descriptive text. For instance, how do you say "sipit" in English? The teacher also asked the students how to describe her using the any adjectives.

The questioning strategy was also applied by P2. The participant asked the students questions to introduce the topic. For example, "What do you want to be after you graduate from this school?" He continued asking the questions in which the information was provided in the textbook. For instance, "What is the use of the table?", "Which work field is at the highest rank?", or inferential question, "Why is it at the highest rank?"

Brainstorming was utilized by P3 when teaching narrative text. He asked the students to decide the title of the story by arranging the jumbled words to form a title. He continued asking the questions related the narrative text that was being told. For instance, "Anyone know why she is named Goldilocks?", "If you were lost in the woods, what would you do?", Why did Goldilocks come to the cottage?"

The other participant applied discussion strategy. He grouped the students into six. The students were asked to discuss and write approximately three sentences using offering help expressions. The teacher invited the students to read the sentences in front of the class. Others were asked to correct the ambiguous sentences.

In the evaluation stage, the participants used various types of assessment such as essay, multiple choice, performance, and completion test. The sources of the tests were mostly from the textbook. There were three participants (P2, P7, and P8) who used other sources such as online resources and personal textbook. In the interview sessions, the participants reported,

"I administer the speaking test in order to figure out whether or not the students already comprehend the materials."

(P1, S1).

"I assign the students to write an application letter in a group. In each group, I will assign the peer tutors to help the members of the group. As the groups present, other groups are asked to evaluate. If they can present well, the students can continue writing individually."

(P2, S1).

"I evaluate by asking questions related to the story for example, what is the solution of the story Goldilocks and the three bears?"

(P3, S1).

"I give the evaluation by asking the students to present in front of the class individually after they write descriptive text."

(P4, S2).

"The evaluation is in the form of performance if the skill is speaking. Sometimes, essay and multiple choices, depending on the material."

(P5, S2).

"Usually, I give the oral questions or modify with chain sentences."

(P6, S2).

"I give daily assessment. For narrative text, The test can be multiple consisting HOTS and LOTS questions. It is given at the end of the class."

(P7, S2).

"The test is in the form of essay. There is also a true and false question."

(P8, S2).

The questions and assessment forms given by the participants are illustrated in the following [Table 1](#).

Partial Implementation of HOTS

There are four English teachers from three schools who applied HOTS only in a particular stage. The participants (P9 and P10) integrated HOTS in the planning and evaluation stage. In the implementation stage, the teachers employed teacher-centered strategy. The other two participants (P11 and P12) only implemented HOTS in the planning stage. The teachers also applied teacher-centered strategy and LOTS questions in the implementation stage.

Based on the data of interviews and documents, the participants used the operational verbs such as retell, analyze, evaluate, perform, compose, identify, and conclude. The participants revealed,

Table 1 HOTS in the evaluation stage

Participant	Type of Assessment	C4 (Analyze)	C5 (Evaluate)	C6 (Create)
P1	Essay/Performance			Write the solutions on six cases (pictures)
P2	Essay		What was the solution of the story (Goldilocks and the three bears)?	
P3	Performance			Find the job vacancy and then write the application letter based on the qualification.
P4	Multiple choice	What is the passage about?		
P5	Completion test	Completing the dialogues using the words provided.		
P6	Multiple choice	Anita: May I help you? Fatah: ... I need a book entitled "Visiting Seattle" Anita: Sure, we have one copy left. I'll get it for you. a. Yes, please b. No c. Sorry d. Maybe e. Go away		
P7	Essay	Find narrative text from the internet. Decide the generic structure and moral lesson.		
P8	Essay	Listen to three telephone conversations. Write down what each caller requests. Does the other person agree to the request?		

“For narrative text, the students are able to retell the social functions of the text, moral message for example from the folklore in Papua.”

(P9, S3).

“The operational verbs are already written in the lesson plan but in the implementation, it is different.”

(P10, S4).

“The students are able to create and produce so in the learning objectives, the operational verbs, analyze, determine, create, and apply are used.”

(P11, S5).

“Identify, use the expression, and practice.”

(P112, S5).

In the implementation stage, the teachers dominated the instructions. Based on the observations session, the teacher (P9) explained the narrative text, social function, examples, and the moral value. She asked the students to mention the characters and the characteristics. The students were assigned to answer the questions from the textbook in pairs. Next, P10 asked the students to listen to the speakers from the audio. She distributed the paper containing the text to the students and had them fill in the blanks while listening to the audio. When all of blanks were answered, the students were asked to come in front of the class to the write the answers. The other participant (P11) when teaching a narrative text, explained the sentence structure using past form. Afterwards, she wrote several sentences using past form on the white board, and made the students find the verbs and adjectives. The teacher asked the students to write one sentence using past form. From these illustrations, none of the participants employed the strategies that can stimulate the students' critical thinking.

In the evaluation stage based on the data from interviews and documents, the participants reported.

“I give the questions whose answers are stated in the text. The questions can be multiple choice; the students are given the text and are asked the main character.”

(P9, S2).

“The students are given the incomplete text. The students listen to the audio to fill the blank spaces. After all the blanks are answered, I ask the students the moral message of the story.”

(P10, S4).

“I ask the students to write a sentence and read it in front of the class.”

(P11, S5).

The assessments used by the English teachers were taken from the textbook, students' worksheet, and online resource. The participant (P10) used the online resource in the form of audio. [Table 2](#) shows the type of assessment used by the teachers.

Discussion

Based on the findings of the study, three schools implemented HOTS completely in three stages of learning. The other two schools integrated HOTS in EFL classrooms only in a particular stage. In the planning stage, HOTS implementation is reflected from the action verbs used in lesson plan. In curriculum 2013, the aspects of HOTS were written in basic competence. By referring to the basic competence, the teachers develop the indicators of competence achievement in a coherent and logical arrangement. As stated in the Ministry of Education and Culture regulation number 22 of 2016, in designing a lesson plan, the teachers should include learning objectives formulated based on basic competence by using observable and measurable operational verbs involving attitude, knowledge and skills (Permendikbud, 2016). According to Ariyana et al. (2018), the learning

Table 2 HOTS in evaluation stage

Participant	Type of Assessment	C4 (Analyse)	C5 (Evaluate)	C6 (Create)
P9	Essay	Listen to three telephone conversations. Write down what each caller requests. Does the other person agree to the request?		
P10	Essay	What is the moral message?	-	-
P11	Written test	-	-	-

objectives cover the competencies that the students should have. They include cognitive, psychomotor, and affective aspects. In other words, learning objectives contain the competencies that the students are required to attain, the description of learning process and the realization of learning outcomes. Based on the result of study, all of the participants used HOTS in the use of action verbs when formulation indicators and learning objectives. Level C4 was found in learning objective, “the students are expected to be able to analyze contextually social functions, text structure and linguistic elements of oral text in the form of fictions and non-fictions critically, creatively and tactfully related to teenagers’ daily life.” This is in line with the study conducted by Haryati et al. (2021). They found level C4 in the operational verbs used by teacher in learning objectives as, “the students are able to analyze the efforts in coping with negative impacts of international trade, analyze the impacts (positive and negative) of international trade in a particular country. Level C5 (evaluate) of Revised Bloom’s Taxonomy found in this study is in the indicator of competency achievement, “the students are able to evaluate social functions, text structure and linguistic components of oral and written text in the form of narrative (legend) critically, creatively and tactfully related to natural and social phenomena based on the contexts where they are used.” Malik (2018) asserted that evaluate is one of essential skills required for global competition. Level C6 in this present study is found in learning objective, “the students are able to compose simple text related to offering help by considering the aims, text structure and linguistic elements properly and appropriately.” The operational verb ‘compose’ is also found in the study conducted by Hemas et al. (2021); Putri and Sulityaningrum (2021).

In 2013 based on the regulations of the Minister of Education and Culture number 22 of 2016, the whilst activities are performed through the use of learning models, learning methods, learning media and learning sources in accordance with the students’ characteristics and the subjects. The selection of learning approaches or methods such as scientific approach, discovery learning and project based learning is adjusted to the competence characteristic and the level of education. In the learning process, not all participants applied strategies to promote students’ higher order thinking skills. There were participants who used teacher-centered strategies when presenting the lesson. The strategies of HOTS the participants employed are problem based learning, questioning, brainstorming, collaborative learning, and discussion. In applying problem based learning,

the participant grouped the students, handed out the problems the students had to discuss to find the solutions. As the students finished the discussion, they presented the results in front of the class. Other groups were welcomed to give the comments and questions. John and Thomas (2018) mention that problem based learning is student-centered approach in which the students learn a particular subject either independently or in a group to solve the problems. In a study conducted by Brooks and Wilson (2015), a teacher uses oral presentation based on problem solving to enhance students thinking and communication skills in English learning. The next strategy employed by the participant is questioning strategy. The participant posed the varied questions from simple questions to the complicated ones. The effective questions combining HOTS is more beneficial to develop students’ critical thinking (Nisa Shafeei et al., 2017). To stimulate students’ critical literacy, the open referential question and follow-up questions are address to encourage the students to become more critical (Aimah & Purwanto, 2019). Brainstorming was utilized by the participant through story telling. The participant involved the students to predict and answer the questions spontaneously, collected the ideas expressed by the students. According to Al-khatib (2012), the main purpose of brainstorming is to encourage and promote students’ thinking and decision-making skills as well as develop the different perspectives and thoughts. Brainstorming is a means to approach student-centered learning allowing the students to learn to share ideas by asking questions that arouse their curiosity and interest. Moreover, the participant applied collaborative learning by assigning the students to choose the people to start new civilizations. The students worked in groups to complete the task. The participant grouped the students heterogeneously. A study conducted by Ali (2009), mentioned that in language learning, collaborative learning can assist the low proficiency students in expressing the ideas as the high proficiency students can give assistance to correct the sentence and clarify the ideas of low proficient.

In the evaluation stage, based on the result of the study, most participants assessed the students with HOTS questions. Level C4 (analyze) is the most frequently used. HOTS questions level C4 were also found in the study conducted by Utami et al. (2019). There were two participants who used level C5 in the assessments. This is congruent with the study conducted by Musliha et al. (2021). HOTS questions level C6 (create) were given by two participants in which the students were assessed to compose the text and perform dialogues. Anderson and Krathwohl (2001) stated that create means combining

elements to form unity and functional. The objective classified as create is getting the student develop a new product by arranging some part or elements to be the pattern which was firstly unclear. The assessment using level C6 was also found by previous researchers (Ilham et al., 2020; Musliha et al., 2021). Although the majority of participants were aware of assessing HOT questions, there were two participants who did not include HOTS in the evaluation.

Conclusion and Recommendation

In the light of the results of this study, it can be concluded that HOTS have been implemented both completely and partially at five public senior high schools in Jambi city. HOTS is integrated completely in EFL classrooms at three schools. In order to achieve the learning objectives, the teachers facilitate the students with the strategies and assessments that can cultivate students' critical thinking. The other two schools only implemented HOTS partially. The teachers only integrated HOTS in the lesson plans and assessment; one teacher only used HOTS in lesson plan. Having figured out this condition, education authorities should take steps to monitor and evaluate the teaching learning process for the implementation of the curriculum. Any future research hopefully can dig deeper into the implementation of HOTS in terms of teachers' knowledge of HOTS (planning, implementation, and evaluation) and the constraints the teachers encounter in undertaking HOTS based learning.

Conflict of Interest

The author declares that there is no conflict of interest.

References

Aimah, S., & Purwanto, B. (2019). The use of teachers' questioning strategies to stimulate students' critical literacy: A case of two English lecturers in Indonesia. *Indonesian EFL Journal*, 5(1), 27. <https://doi.org/10.25134/ieflj.v5i1.1608>

Akyol, Z., & Garrison, D. R. (2011). Understanding cognitive presence in an online and blended community of inquiry: Assessing outcomes and processes for deep approaches to learning. *British Journal of Educational Technology*, 42(2), 233–250. <https://doi.org/10.1111/j.1467-8535.2009.01029.x>

Al-khatib, B. A. (2012). The effect of using brainstorming strategy in developing creative problem solving skills among female students in Princess Alia University college. *American International Journal of Contemporary Research*, 2(10), 29–38. https://www.ajcernet.com/journals/Vol_2_No_10_October_2012/4.pdf

Ali, Z. (2009). A case study on collaborative learning to promote higher thinking skills (HOTS) among English as a second language (ESL) learners. *Jurnal UMP: Social Sciences and Technology Management*, 1(1), 1–14. <http://umpir.ump.edu.my/5069/>

Anderson, L. W., & Krathwohl, D. R. (2001). *A taxonomy for learning, teaching and assessing: A revision of Bloom's taxonomy of educational objectives*. Addison Wesley Longman.

Anonymous. (2013). *Peraturan menteri pendidikan dan Kebudayaan Republik Indonesia Nomor 70 Tahun 2013 tentang kerangka dasar dan struktur kurikulum sekolah menengah kejuruan/madrasah aliyah kejuruan* [Regulation of the Indonesia Republic Minister of Education and Culture Number 70 Year 2013 on Basic Framework and Curriculum Structure of Vocational High School]. <https://luk.staff.ugm.ac.id/atur/bsnp/Permendikbud70-2013KD-StrukturKurikulum-SMK-MAK.pdf>

Ariyana, Y., & Bestary, R. (2018). *Buku pegangan pembelajaran berorientasi pada keterampilan berpikir tingkat tinggi* [Handbook of Higher Order Thinking Skills oriented learning]. Direktorat Jenderal Guru dan Tenaga Kependidikan Kementerian Pendidikan dan Kebudayaan Hak.

Arter, J. a., & Salmon, J. R. (1987). *Assessing higher order thinking skills a consumer's guide*. Northwest Regional Educational Laboratory, Evaluation and Assessment.

Barteil, T. G. (2013). Learning to teach mathematics for social justice: Negotiating social justice and mathematical goals. *Journal for Research in Mathematics Education*, 44(1), 129–163. <https://doi.org/10.5951/jresematheduc.44.1.0129>

Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain. David McKay Company.

BNSP. (2010). *Panduan pengembangan indikator* [The guideliness of indicators elaboration]. Kemendiknas.

Brookhart, S. M. (2010). *How to assess Higher Order Thinking Skills in your classroom*. Association Supervision & Curriculum Development (ASCD).

Brooks, G., & Wilson, J. (2015). Using oral presentations to improve students' English language skills. *Kwansei Gakuin University Humanities Review*, 19, 199–212. <https://core.ac.uk/download/pdf/143638488.pdf>

Chun, T. C., & Abdullah, M. N. L. Y. B. (2019). The teaching of Higher Order Thinking Skills (HOTS) in Malaysian schools: Policy and practices. *Malaysian Online Journal of Educational Management*, 7(3), 1–18. <https://doi.org/10.22452/mojem.vol7no3.1>

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Pea.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative and mixed methods approaches* (4th ed.). Sage.

Djami, C. B. N., & Kuswadono, P. (2020). Teachers' strategies to implement higher-order thinking skills in English instruction. *Metathesis: Journal of English Language, Literature, and Teaching*, 4(1), 25–40. <https://doi.org/10.31002/metathesis.v4i1.2048>

Gozali, I., Lie, A., Tamah, S. M., & Jemadi, F. (2021). HOTS questioning ability and HOTS perception of language teachers in Indonesia. *Indonesian Journal of Applied Linguistics*, 11(1), 60–71. <https://doi.org/10.17509/ijal.v1i1.34583>

Haryati, S., Trisnowati, E., Siswanto, S., & Al Firdaus, M. M. (2021). Identifying higher-order thinking skills on lesson plan: How do teachers construct the lesson plan? *Tadris: Jurnal Keguruan Dan Ilmu Tarbiyah*, 6(2), 277–285. <https://doi.org/10.24042/tadris.v6i2.8828>

Hemas, M. D. A., Wedhanti, N. K., & Juniarta, P. A. K. (2021). Analysis of higher order thinking skills in English lesson plans. *Thinking Skills and Creativity Journal*, 4(2), 68–73. <https://doi.org/10.23887/tscj.v4i2.36999>

Ilham, N. W., Jabu, B., & Korompot, C. A. (2020). Analysis of higher-order thinking skills (hots) items in senior high school English national examination 2019. *ELT Worldwide: Journal of English Language Teaching*, 7(2), 156–162. <https://doi.org/10.26858/eltww.v7i2.14764>

Johansson, E. (2020). The assessment of higher-order thinking skills in online EFL courses: A quantitative content analysis. *NJES Nordic Journal of English Studies*, 19(1), 224–256. <https://doi.org/10.35360/njes.519>

John, T. E., & Thomas, B. (2018). A theory of learning based on constructivism and problem based learning to develop higher order thinking skills. *IJRDO - Journal of Social Science and Humanities Research*, 3(5), 41–51. <https://doi.org/10.53555/sshr.v3i5.2010>

King, F. J., Goodson, L., & Rohani, F. (1998). *Higher order thinking skills: Definition, teaching strategies, assessment*. Center for the Advancement of Learning and Assessment.

Krathwohl, D. R. (2002). A revision of bloom's taxonomy: An overview. *Theory into Practice*, 41(4), 212–219. <https://www.depauw.edu/files/resources/krathwohl.pdf>

Limbach, B., & Waugh, W. (2010). Developing higher level thinking. *Journal of Instructional Pedagogies*, 1–9. <http://www.aabri.com/manuscripts/09423.pdf>

Malik, R. S. (2018). Educational challenges in 21st century and sustainable development. *Journal of Sustainable Development Education and Research*, 2(1), 9–20. <https://doi.org/10.17509/jsder.v2i1.12266>

Merriam, S. B. (2009). Qualitative research: A guide to design and implementation. Jossery-Bass.

Mursyid, & Kurniawati, N. (2019). Higher order thinking skills among English teachers generation in EFL classroom. *English Review: Journal of English Education*, 7(2), 119–124. <https://doi.org/10.25134/erjee.v7i2.1775>

Musliha, S., Sudana, D., & Wirza, Y. (2021). The analysis of Higher Order Thinking skills (HOTs) in the test questions constructed by English teachers. *Proceedings of the Fifth International Conference on Language, Literature, Culture, and Education (ICOLLITE 2021)*, 595, 610–617. <https://10.2991/assehr.k.211119.095>

Nada, A. R., & Melani, M. (2021). Higher order thinking skills in teacher developed test at 10 th grade students of senior high school 1 Canduang. *Indonesian Journal of Learning Studies*, 65–71. <https://dmi-journals.org/ijls/article/view/28/22>

Nisa Shafeei, K., Hassan, H., Ismail, F., & Abdul Aziz, A. (2017). Incorporating higher order thinking skill (hots) questions in ESL classroom contexts. *LSP International Journal*, 4(2012), 101–116.

Organisation for Economic Co-operation and Development [OECD]. (2014). PISA 2012 results in focus: What 15-year-olds know and what they can do with what they know. <https://www.oecd.org/pisa/keyfindings/pisa-2012-results-overview.pdf>

Partnership, P. (2017). *Partnership for 21 st century skills- partnership for 21st century skills-core content integration*. https://www.marietta.edu/sites/default/files/documents/21st_century_skills_standards_book_2.pdf

Permendikbud. (2016). *Permendikbud Menteri Pendidikan dan Kebudayaan Nomor 22 Tahun 2016* [Regulation of the Indonesia Republic Minister of Education and Culture Number Number 22 Year 2016]. <https://luk.staff.ugm.ac.id/atur/bsnp/Permendikbud22-2016SPDikdasmen.pdf>

Purwati, O., Munir, A., & Hafifah, G. N. (2022). The policy to state HOTS in basic competence (KD) of 2013 English curriculum and English teachers' practice in developing indicator achievement. *JEES (Journal of English Educators Society)*, 7(2), 154–162. <https://doi.org/10.21070/jees.v7i2.1662>

Putri, R. N., & Sulistyaningrum, S. D. (2021). Incorporating higher-order thinking skills in English lesson plans for senior high school. *Celtic: A Journal of Culture, English Language Teaching, Literature and Linguistics*, 8(2), 164–176. <https://ejournal.umm.ac.id/index.php/celtic/article/view/18330>

Retnawati, H., Djidu, H., Kartianom, Apino, E., & Anazifa, R. D. (2018). Teachers' knowledge about higher-order thinking skills and its learning strategy. *Problems of Education in the 21st Century*, 76(2), 215–230. <https://doi.org/10.33225/pec/18.76.215>

Singh, C. K. S., Gopal, R., Ong, E. T., Singh, T. S. M., Mostafa, N. A., & Singh, R. K. A. (2020). ESL teachers' strategies to foster higher-order thinking skills to teach writing. *Malaysian Journal of Learning and Instruction*, 17(2), 195–226. <https://doi.org/10.32890/mjli2020.17.2.7>

Stake, R. E. (2005). Qualitative Case Studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp. 443–446). Sage Publication Ltd.

Teimourtash, M., & YazdaniMoghaddam, M. (2017). On the plausibility of bloom's higher order thinking strategies on learner autonomy: The paradigm shift. *Asian-Pacific Journal of Second and Foreign Language Education*, 2, 14. <https://doi.org/10.1186/s40862-017-0037-8>

Tican, C., & Deniz, S. (2019). Pre-service teachers' opinions about the use of 21st century learner and 21st century teacher skills. *European Journal of Educational Research*, 8(1), 181–197. <https://doi.org/10.12973/eu-jer.8.1.181>

Utami, F. D., Nurkamto, J., & Marmanto, S. (2019). Higher-order thinking skills on test items designed by English teachers: A content analysis. *International Journal of Educational Research Review*, 4, 756–765. <https://doi.org/10.24331/ijere.629581>

Yee, H., Othman, W., Yunos, J., Tee, T., Hassan, R., & Mohaffyza, M. (2011). The level of Marzano Higher Order Thinking Skills among technical education students. *International Journal of Social Science and Humanity*, 1, 121–125. <https://doi.org/10.7763/IJSSH.2011.V1.20>