

*EFL Students' Perceptions of the Use of Higher Order Thinking Skills in
English Language Writing: Indonesian Students' Contexts*

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Abstract

Higher Order Thinking Skills (HOTS) is inevitably important to develop students' critical and creative thinking skills in 21st century era. HOT skills are the cognitive ability to analyze, evaluate, and create some topic inside or outside the classroom. This case study was conducted to explore the impact of using HOT skills and investigate student's perception towards its use in EFL writing classrooms. This study involved three students in the third grade in junior high school. They were asked to independently write recount texts with similar theme. Students' worksheet and interviews are conducted and then analyzed by using Bloom's taxonomy. The findings eventually show that that stage "analyze" mostly appears in written form and the students felt actively involved in learning activities, developed their writing skills, and experienced learner autonomy and problem-solving abilities. The study recommends that HOT skills have a positive result for EFL students and be explicitly infused in the teaching and learning of writing activities in EFL classrooms.

Keywords: EFL Students, Higher Order Thinking Skills, Writing Classroom

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Introduction

Inevitable prompt growth in the 21st century influences almost every aspect of human life (Assare, Mohammadi, Forutan, & Salehizadeh, 2016) and there is no exception for the education aspect. Much improved competencies and skills are needed to equip students of any level of education in today's globalization and disruption era (Huang et al., 2010). The fundamental aspect is Higher-order thinking skills. As they are known, they needed education to meet the demands of the twenty-first century. Many specialists have noted the connection between students' academic success and higher-order thinking capabilities (HOTS). This is why students who learn with critical thinking abilities frequently achieve academic success. In the current decades, Higher-Order Thinking Skills (HOTS) has become the center of attention of some countries in the world to build their generation to be critical thinkers who are ready to face real-life situation in this era. Many countries applied HOTS as an aspect that should include in the curriculum at every stage of education including Indonesia.

The utilization of HOTS in the educational process, particularly in teaching and learning, is important. The effectiveness of learning itself may be impacted by learners' capacity for critical thought. The abilities include all varieties of abstract talents, such as problem-solving and critical thinking abilities (Nourdad, Masoudi, & Rahimali, 2018). Reid (2014) argues that students need to develop their critical thinking abilities urgently so that they can become aware of their own thoughts as they consider different approaches to an issue. Students who are self-conscious are aware of what they are learning, and those who are self-monitoring consider their strengths and weaknesses as problem-solvers. One of the thinking skills that people now require is the capacity to solve problems. The theory of human thinking skills was classified by Benjamin Bloom at the beginning of his publication entitled *Educational Objectives: The Classroom of the Educational Goals*. It was the original version explaining the learning objectives and thinking ability.

Since many years ago, the significance of those thinking abilities has been recognized. It follows that using HOTS in the classroom shouldn't have been a challenge for educators of all generations. Nowadays, there are essentially three generations of teachers. First, those who were born between Baby Boomers are those born between 1945 and 1964. The smallest generation, those born between 1965 and 1979, are referred to as Gen X or digital immigrants. Gen Y refers to those who were born between 1980 and 1999. According to Gibson, Greenwood, and Murphy (2009), this generation is also known as the Millennial, Echo-Boomers, and Net Generation. Teachers should be able to create and implement HOTS that is connected with the subject matter during the teaching and learning process (Sutarto, 2017).

Literature Review

Concepts of Higher-Order Thinking Skills (HOTS)

The 2013 Curriculum, developed by Indonesia's Ministry of Education and Culture (Kemendikbud), strongly emphasizes a strong emphasis on 21st-century abilities. Teachers are supposed to help students develop the 4Cs (critical thinking and problem-solving, communication, collaboration, and creativity), which are the pillars of 21st-century learning. (P21, 2011). Therefore, the teacher should employ instructional strategies that can help students develop their higher-order thinking skills (HOTS). According to Brookhart (2010), the idea of HOTS is the act of taking the knowledge that has been stored in memory,

restructuring it, and using it to serve a function in unexpected contexts. Additionally, HOTS is divided into three fundamental categories: transfer, critical thinking, and problem-solving. As a higher level of cognitive activity, HOTS includes the following skills: (a) the ability to apply knowledge and skills in new contexts; (b) the ability to describe the problem logically and solve it creatively; and (c) the ability to critically evaluate arguments and reach a conclusion.

Additionally, according to Brookhart (2010:5), the highest level of Bloom's cognitive taxonomy is higher-order thinking. Any cognitive taxonomy's educational objective is to enable transfer among students, according to the author. Higher Order Thinking (HOT) is the phrase used to describe "thinking at a level higher than memorization of facts or telling something back to someone." Additionally, "HOT requires students to act and takes thinking to higher levels than simply restating the facts." Additionally, the old paradigm frequently ran into the awareness of the necessity of creating a learning process that places a focus on HOTS in the twenty-first century. Under the Regulation of Education and Culture Minister of Indonesia Number 22 the Year 2016 concerning the Standard Process of Elementary and High Education, knowledge is acquired through actions such as analyzing, evaluating, and creating. This statement is in line with the Bloom Taxonomy called HOTS.

The application of HOTS in the educational process, particularly in teaching and learning, is important. The efficiency of learning itself may be impacted by learners' capacity for critical thought. The abilities include all varieties of abstract talents, such as problem-solving and critical thinking abilities (Nourdad, Masoudi, & Rahimali, 2018). Weay, Masood, and Abdullah (2016) claim that Bloom categorizes educational goals into three categories: cognitive, affective, and psychomotor domain. The six stages of Bloom's taxonomy's cognitive domain are knowledge, comprehension, application, analysis, synthesis, and evaluation. The five levels of the affective domain are receiving, responding, valuing, organizing, and characterizing. Meanwhile, the psychomotor domain is classified into seven levels, namely perception, set, guided response, mechanism, complex over response, adaptation, and origination. Those three educational objectives are then popularly known as Bloom's Taxonomy.

In contrast, Harris et al. (2014) quote Anderson and Krathwohl (2001) who define a new cognitive domain that includes remembering, understanding, applying, analyzing, evaluating, and producing. The analyzing, evaluating, and creating tasks—which were previously handled by analyzing, synthesizing, and evaluating—are where the original and amended versions diverge. According to the revised version, producing is the highest level of mental capacity, while remembering is the lowest. On the other hand, As stated by Rajendran and Idris (2008) in Chidozie (2014), higher-order thinking skills involve the need of analysis, evaluation, and creation or production as thinking skills. As components of HOTS, analyzing is the capacity to dissect information into its component pieces and organize the pertinent information; evaluating is the capacity to consider something and develop an opinion; and generating is the highest capacity to produce novel ideas or concepts.

Higher-Order Thinking Skills in EFL Classroom

Higher Order Thinking Skills (HOTS) are divided into three categories by Brookhart (2010) based on the learning goals that students must attain. Transfer, critical thinking, and problem-solving are the first three. If a student is able to think critically, which means that they can make good decisions or offer valid criticism, they are considered to have HOTS. As a result,

they are able to offer justifications, reflect, and choose wisely. The student's capacity for evaluation is important to mention in this case. Students are required to be able to judge a source's reliability in the present era, where there is a variety of information, and determine if the material is reliable or not. In project-based learning, all of the HOTS components are present. Based on the aforementioned explanation, it can be concluded that project-based learning is unable to accommodate the achievement of three Basic Competencies, namely attitudes, knowledge, and, skills in the Indonesian 2013 Curriculum. Therefore, project-based learning can be used as an alternative in implementing the Curriculum 2013.

The National Research Council (1987) initiative, which covered a number of American schools, offered several major recommendations on different techniques to synthesize theories relating to HOT skills. The main study showed that HOT abilities had a significant influence on students' successful learning outcomes. It was discovered that kids compared to knowledge acquired by lower-order abilities, notably rote memorization, knowledge acquired through HOT learning processes is better retained in the long term.

Teaching English is commonly conducted by different teachers who bring various experiences and knowledge into the classroom. What the teacher brings into the teaching brings into the teaching-learning process will influence the students' outcomes. By exploring their perceptions, the result will become one of many references that may evaluate their behaviors toward the classroom, (Borg, 1999). Evaluating what the teachers do in the classroom, it may result in improving students' achievement, especially in the EFL Classroom. Istiqomah (2018) argued in her research, developing HOTS for junior high schools mainly in EFL Classrooms is not easy and challenging for them. Teachers and students face many difficulties in delivering English subject materials that employ HOTS in it. Students' different characteristics, levels of intelligence, and motivation become the factors that may influence their teaching-learning process (Juhansar et al., 2018).

HOTS Strategies in Pedagogical Practices

Frangenheim's model (2006) grounded on Bloom's taxonomy promotes strategies for pedagogical practices by integrating HOT skills which has the Thinking Skills Framework (TSF hereafter) for students (Table 1) and is complemented with the Teacher's TSF. This model helps teachers in understanding the importance of using HOT skills and empowers teachers with creative and innovative strategies in their pedagogical practices. Students become engaged in their learning through the TSF and they are able to practice HOT skills effectively through various activities. Results from various studies contend that students' interest and engagement in the classroom impact positive learning outcomes which even motivates them to pursue challenging tasks in the classroom environment (Ames, 1992; Kaplan et al., 2002).





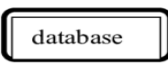
Bloom Level	Verbs	Starters	Tools
 Design Acting like an inventor experiencing 'light bulb' moments to generate new products, ideas or ways of doing things	Create Extrapolate Improve Invent Predict Propose	Design a database for... Formulate criteria to judge... Develop argument... Design an action plan... Create a role play... Design brochures...	Software Y-Chart MAS Images
 Evaluate Acting like the scales of justice to 'weigh up' the evidence to make and justify a decision	Argue Assess Conclude Critique Decide Judge	To what extent... Justify the decision of... Select options... Evaluate the effectiveness... Validate the accuracy... Determine which is effective...	Barometer Matrix Judge-Jury Draw Elimination
 Analyse Acting like a magnifying to identify the component parts of an issue, situation or subject	Debate Deconstruct Differentiate Discuss Distinguish	Compare... Analyse from perspectives... Summarise viewpoints... Conduct research on... List the pros and cons	T-Chart Fishbone diagram Y-Chart T-Chart
$A = \frac{1}{2}bh$ Apply Acting to apply new skills, rules and concepts to related new situations	Calculate Compile Complete Demonstrate	Apply previous knowledge... Complete a site map for... Demonstrate how to... Construct a flow chart...	Role play Flow chart POE
 Understand Acting like an expert, showing understanding of words, concepts, cause and effect and 'reason for'!	Classify Comprehend Discuss Explain Interpret	Explain how... Give reasons for... Research to understand... State 3 things you know... Describe clearly...	Cause-Effect Map Y-Chart Concept Map
 Remember Acting like an internet Database to recall Information	Define Find Label Memorise Recall	Name all the... Describe what happened... Search the internet for... What is ... List...	KWHL Y-chart Transfer-booklet 3:2:1 RIQ

Table 1: Thinking Skills Framework (TSF hereafter) for students

This study adopted Frangenheim's (2006) model. In this model, the students' TSF advocates engaging and individualized lessons where it paves the way for students to take ownership of their learning. In this TSF (Table 1), students will be able to understand the intended learning outcomes that the teacher designs through various questions and activities which educate students in the six cognitive levels of Bloom's taxonomy. When students learn about these levels, they are also exposed to the appropriate thinking tools for each of the six levels of thinking. Frangenheim's HOT model (2006) encourages 21st-century skills of critical and creative thinking skills to be acquired through questioning at the appropriate level and scaffolding of tasks by incorporating a range of collaborative and cooperative strategies. The learning outcomes are achieved through a combination of strong content knowledge and the effects on student engagement can be dramatic.

Methodology

Research Questions

The study was guided by the following research questions:

- What are ESL students' perceptions of learning writing using Higher Order Thinking Skills?

Research Design

The study aimed to explore students' perspectives on the use of Higher—Order Thinking Skills in their writing ability. To answer the research question, this research employed a qualitative case study method. This process (Cresswell, 2014) is what this study intends to. Therefore, this study employed a qualitative case study since it aimed to see the natural phenomenon of the teachers understanding and their teaching approach which were elaborated descriptively.

Research Sample

The sample is the three students who were selected. The participant had sought the cooperation of the researchers not to name the school, Students, as a measure of safeguarding the privacy of the EFL students involved in this study. Hence, the school will be named 'School A' and the location of this school was in a remote setting in Temanggung Regency, central Java Indonesia. The students were identified based on purposive sampling as the form one class was the target group that is currently experiencing the national based-assessment system. The case study was selected based on the criteria that the five students were selected as the sample for this study.

Research Instruments

A semi-structured interview and document analysis were conducted to collect information about the students' HOTS perception. To collect deeper detailed information, the document analysis is processed through a student's worksheet while the interview guideline was developed based on theories of HOTS by Anderson et al. (2001) and then analyze using TSF. Regarding HOTS theory the method was developed based on the Retnawati et al. (2017). The procedures permit the researcher to explore the data from the participants related to their understanding of HOTS in the writing context. For the Interview guideline were developed based on the knowledge. The interview was conducted at the beginning in which the results were used as the guideline for developing the observation checklist. The interview was conducted in a one-on-one mode which was recorded and transcribed for accurate recording. The interview sessions, which were held in a classroom immediately after school hours, aimed to elicit students' perceptions concerning the impact of using HOT skills in their EFL writing classroom.

Interview sessions were held after the completion of the teaching of writing using HOTS (four weeks). An interview schedule, based on Frangenheim's (2006) HOT model, was constructed to formulate appropriate questions that will facilitate the collection of the required data to answer the research questions. The construction of interview questions for the EFL students was given due consideration regards to the research questions, objectives and HOT skills' framework of this study. This procedure involved segregating themes and

issues in relation to the area of study which is closely aligned to the teaching and learning of writing using HOT skills. The responses provided by the EFL students were then analyzed deductively. The analysis looked into various aspects that encompassed the manner in which the students perceived the effectiveness of learning writing using the TSF.

Procedure

The participants are students in the ninth grade of junior high school who has learned to recount text. The teacher guided them to write the characteristics feature of the text and then the researcher analyzed using the Thinking Skills Framework (TSF). There were six choices in TSF cognitive domain. During the analysis of data, the researcher was briefed on the features of incorporating HOTS in the designing of the rubrics which is in relation to the TSF. They included the following tasks: asking students to write down their text, asking for semi-structured interviews, and providing specific feedback. These features of HOTS integrated the writing lessons were part of the journey in ensuring that students mastered the art of recount text and that processes experienced by students were engaging while creativity was promoted.

The TSF poster (Table 1) was guided and used by the researcher to analyze HOTS by taking into consideration Bloom's levels of remembering, Understanding, Applying, Analyzing, Evaluating, and Designing. The six elements in the TSF played an important role in ensuring HOTS. In the first lesson, the teacher highlighted the TSF to the students and Bloom's six levels of cognitive domains, the use of appropriate verbs, sentence starters, and the ways to employ the appropriate thinking tools. At the end of task 6, focus group interviews were conducted among 48 students who volunteered from the three intact EFL classes, with the aim of determining the extent to which HOT skills affect EFL students' learning of writing and their perceptions of learning writing using HOT skills. There were 2 focus group interviews that were conducted for each class: Group A and Group B from Class 1; Group C and D from Class 2 and Group E and F from Class 3. In analyzing student responses in the focus group sessions, pseudonyms were used to reflect actual student views.

Result

Students' Perception of Bloom's Taxonomy Level 1 (Remembering)

To analyze the students' perception of this stage, there were asked to write and talk about recount texts specifically their experience. They act as a source to recall information. The result indicated that all of the students use cognitive "Remember" in their writing product and in the interview but use different words. Student "A" stated TSF helped them to know the characteristic words that he would apply in their writing. The other students concurred with student A. Majority of students were excited to use "To be" and "Modality" to express the cognitive "Remember" while implementing HOTS both in their text or oral skills. They stated:

"Last school holiday, I was happy because I could meet my grand parent again after a long time. The atmosphere there was very pleasant. I could play with my brothers and sisters".

The result indicated that TSF helped the students to be "aware of what was expected" from them in the lessons. They "felt that they performed better". All of the participants really

understand well in this cognition. The students were of the opinion the cause-effect map was helpful in understanding the ways in which elaborated their activity during their vacation.

Students' Perception of Bloom's Taxonomy Level 2 (Understanding)

Students conveyed their experience, acting like an expert in understanding the reasons why they can talk that their holiday is fantastic. Student B stated that the 'Wh' questions asked by the teacher had made them think "very deeply" to mention how fun they were on their holiday. He said:

"What did you think about my trip? The vacation was fun. My cousins and I stayed for few days. It was great when every day joking around with my cousins, visiting the relatives' house, going to fields, and eating snack every without end".

Most students realized that the TSF helped them to be "More critical" of themselves in the lessons. They "felt that they do perfectly". They believe that this stage pushes them to explore and elaborate on the reason behind their fascinating holiday.

Students' Perception of Bloom's Taxonomy Level 3 (Applying)

Most students had collectively voiced out that they enjoyed themselves dramatizing their experiences during the holiday. Each of them has a different idea to share their argument. Student C stated,

"At that time, when my cousins and I were walking through stairs and telling stories, then I suddenly fell and all eyes were looking at me. How embarrassed I am. Then I immediately stood up and continued on my way even though my legs were really sore".

Many other students felt the same way as student C and the idea in the form of storytelling was performed in class. When students were asked about their experience writing the recount essay, there were quite a number of responses that basically highlighted on students usually have a 'mental block' during writing but after experiencing the TSF lessons, students had "no problem and phobia" about writing essays.

Students' Perception of Bloom's Taxonomy Level 4 (Analyzing)

Almost all the students conveyed their "enthusiasm" acting like a magnifying glass to share their interesting and uninteresting stories. Student A said:

"Last semester break was really fun. I can meet again with my family and enjoy a lots of food in Bantengan Art. This holiday will always be missed".

Many students communicated similar opinions as student A. The Fishbone diagram was a tool that "fascinated" students and they enjoyed the experience of applying their information to related writing activities in the classroom.

Students' Perception of Bloom's Taxonomy Level 5 (Evaluating)

From all the participants, it was clear that the majority of students stated that they gained "confidence" in having the opportunity to share and conclude the extent of their holiday experience. The students who considered themselves "shy", stated that they felt "grand" at being able to assume the role of judge-jury. Most students also communicated that they were able to critically evaluate situations, and discuss and recommend ways to control the knowledge. Student B stated, "I am not usually confident of my evaluation ability but not anymore though. I have realized my ability to evaluate well". Students C concurred with him and said "Oh yes! I feel the same too and am proud of myself for doing a good job. I was amazed at myself for being able to share my activity and conclude their impression of their holiday". Similar responses were stated by student A.

Students' Perceptions of Bloom's Taxonomy Level 6 (Designing)

All students communicated to the researchers that they felt like an "inventor" designing the brochure containing the activity about their holiday session. Student C said, "I felt cool and creative designing the brochure, especially the graphics. My friend edited it and other friends suggested colors and ideas for designing it. We worked so well together and never got this chance before". Several other students shared similar viewpoints and said that they imagined themselves being "future inventors".

Conclusion

The findings from the interviews indicate that students perceived their roles in the writing classroom as follows: they felt engaged in active learning, they experienced learner autonomy, they developed their writing, researching and personal skills as well. The HOT lessons promoted students' involvement and discussions in the classroom in which students believed that their ideas matter in the classroom. The HOT lessons tapped into students' prior knowledge by providing context-rich language resources and this concurs with Cummins, (1994) and Dong's, (2004) findings that language teachers play an important role to promote HOT skills aligned to language skills.

The students in this case study felt that HOT skills are nurtured by giving them a platform to compare, question, discuss, validate and reflect on their own and others' ideas. Research findings advocate that students from diverse ethnic and socio-economic environments in junior high should be given the platform to develop their HOT skills in real classroom teachings (Newman, Bryk & Nagaoka, 2001). In this study, students' ability to question their peers and likewise, answer their teacher's questions, provided a new dimension in their thinking and this in turn helped to develop their writing skills. The TSF fostered HOT skills among students when they learned to use the critical and creative thinking tools in a practical way and engaged in co-operative learning.

The findings of this study suggest that HOT writing lessons facilitate students' writing ability and interest and should be explicitly infused in the teaching and learning of writing activities in EFL writing classrooms. The TSF which was used as a conceptual framework of this study confirms the extensive effect of HOT skills in promoting students learning outcomes in writing where it has the potential to enhance students' minds, leading to the production of a variety of alternatives, ideas, actions, solutions and design. To some extent, the findings of this study confirm the significant value of HOT skills in generating ideas so students have the

potential in acquiring creative and critical thinking. While the findings of this case study cannot be generalized to all EFL classrooms in Malaysia, there is a possibility that the use of the TSF can be viewed as a viable option in the teaching of writing among other secondary school students, especially in regards to examining the potential of this framework in other EFL contexts.

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