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Barriers to Teaching Higher Order Thinking Skills to EFL School Learners: A Systematic Review

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Abstract

Higher-order thinking skills (HOTS) are an essential 21st-century cognitive skill. It has proved its effectiveness for EFL learners too. Therefore, it is very necessary for EFL teachers to apply different strategies to promote learners' critical thinking skills. However, it is still not clear about the effectiveness of the strategies utilized in promoting HOT skills in EFL classrooms, which demanded greater attention. This review systematically synthesized the HOTS concept by focusing on the barriers that can hamper the EFL learners and teachers from employing HOTS in the learning and teaching process. It also aims to highlight some strategies and possible solutions that can contribute to teaching HOTS in EFL classrooms. This study concluded with a set of suggestions for promoting EFL learners' HOTS.

Keywords: EFL Learners, EFL Teachers' Barriers, Higher-Order Thinking Skills, HOTS Teaching Strategies.

Introduction

Higher-order thinking (HOT) is widely accepted as an important outcome for schools. It helps students to be successful in and outside the school. By teaching how to think critically, students will be able to solve the problem, synthesize, analyze the problem, and logically raise questions. These abilities are also essential for making sound judgments (Buka, 2014). Using higher-order thinking skills (HOTS) assists students to find suitable and practical solutions to their problems. Thus, obtaining (HOTS) leads to a successful life. In the same vein, Buka (2014); Semerci (2005) believe that (HOTS) is a continuous and well-learned knowledge that aids to develop the evaluation capacity of learners and increases suitable behaviors toward new situations. It also advocates the learner's ability in raising important questions, formulating them, gathering information, thinking in open-minded, and communicating with others effectively (Duron et al., 2006). As HOTS is an essential educational product, practicing, coaching, and being patient are fundamental requirements for it (Snyder & Snyder, 2008).

Based on the above perspectives, (HOTS) plays a vital role in human life. Therefore, Burbules and Berk (1999) point out that (HOTS) and behaviors can be applied to all levels of education. It is also highly recommended for higher-level of education in both Mathematics subject and English language as well due to their poor performance in secondary schools(Alkharusi et al.,

2019). Likewise, the role of (HOTS) is obvious in learning and teaching fields as well as in teaching English reading. For instance, Xu (2011) states that learners need to be critical readers and able 'to organize, interpret, synthesize, and digest what they read'. Higher-order thinking is very important for EFL learners in particular because it promotes learners to deal with the new and fast revolution in knowledge and technology (Alkharusi et al., 2019). Some of the 21st-century skills like HOTS, critical thinking, and problem-solving have a high and positive influence on language skills such as speaking and writing (Motallebzadeh et al., 2018). HOTS is not improving EFL learners' writing only but also the other skills like reading, listening, and speaking (AlKhoudary, 2015). Therefore, developing higher-order thinking skills is an essential requirement for EFL learners.

The higher-order thinking concept can be originally related to Bloom taxonomy,1956 and it is based on mastering some skills to be utilized later on for other similar situations (Murray, 2014). The cognitive domain is the most important one in Bloom's taxonomy. It is directly related to thinking skills and it consists of six main categories namely, knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom, 1956). Singh and Shaari (2019) clarify that the first three levels namely knowledge, comprehension, and application are known as the lower thinking skills (LOTS), while analysis, synthesis, and evaluation are categorized as (HOTS) Higher-order thinking level. Thus, higher-order thinking skills are grounded in lower-order skills that are linked to prior knowledge of subject matter content. The main purpose of creating Bloom's objectives is to help the teachers to design their objectives to provide suitable instructions for their learners. Such instructions will help the students to develop their thinking skills and abilities (Simonson, 2015). However, regardless of the crucial role of the original Bloom taxonomy in enhancing teachers and students in the learning process, it creates a kind of confusion for teachers as acknowledged by (Walsh & Sattes, 2011). Therefore, the revised taxonomy by L. W. Anderson and Krathwohl (2001) has emerged to improve it. Wilson (2019) mentions that the Revised Taxonomy is more valuable and inclusive because it shows how the various levels of knowledge could be interconnected and meet each other. Therefore, the curriculum, as well as the assessment questions, should include all the revised Bloom Taxonomy's objectives and it should be distributed in an equal way (Zorluoglu et al., 2019). The following figure 1 displays the differences and similarities between the Bloom original taxonomy and the revised taxonomy as adopted from (Wilson, 2016).

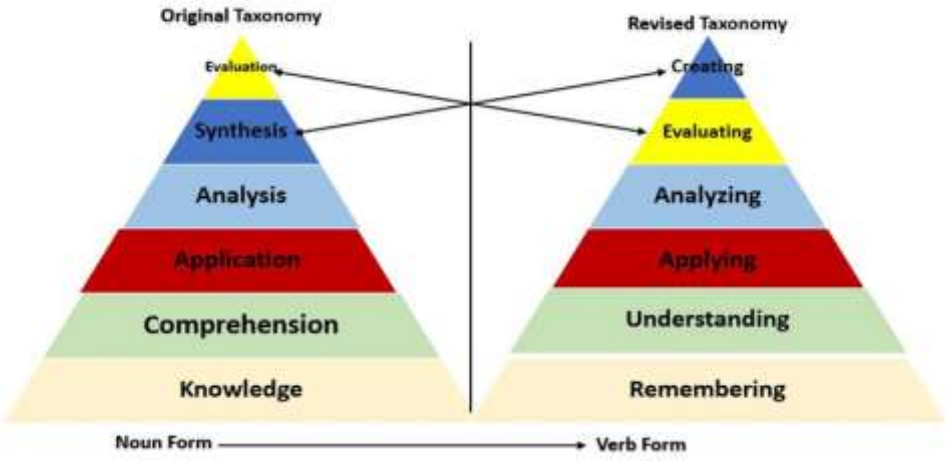

Figure 1: Bloom Taxonomy (1956) and The Revised Taxonomy (2001), adopted from (L. O. Wilson, 2016).

The attempts of making a unified and merged definition for (HOTS) are still challenging for scholars and researchers. Accordingly, many different attempts have been made to define it. Lewis and Smith (1993) define Higher order thinking as the following: "Higher-order thinking occurs when a person takes new information and information stored in memory and interrelates and/or rearranges and extends this information to achieve a purpose or find possible answers in perplexing situations." Such definition provides an opportunity to make the right decisions, create and solve problems. In the classroom, this definition contributes to promoting teachers to make learning more effective not only for gifted learners but for everyone. Teachers need to infuse higher-order thinking in the tasks given to learners, assessments, and their learning strategies. HOTS is also defined by Walsh and Sattes (2011), as scaffolding students' thinking about both the question posed and their responses to it. This approach is different than students' traditional thinking and answering questions, in which students attempt to guess the teacher's answer to classroom questions. Specifically, students have the freedom to think carefully about the question raised by the teacher and how to provide a creative answer. In the same vein, Murray (2014) claims that students' minds need not only to be filled with information by memorizing and imitating various learning skills. The information, however, needs to be acquired by a deeper understanding of the skills to be able to apply them in many different situations. They need to learn how to evaluate, modify, or synthesize those skills too.

Problem-solving is one of the main aspects of HOTS. It is an aptitude to organize and direct the process of thinking. Debache and Saadi (2017) divide problem-solving skills into deductive and inductive reasoning thinking skills, that are applied to make sensible meaning to various life events. Problem-solving consists of two main domains which are creative problems solving and collaborative problems solving. Through creative problem solving, students are involved in higher-order thinking. They often try to find their way in solving problems they might face (Al-Khatib, 2012). Whereas collaborative problem-solving means "approaching a problem responsively by working together and exchanging ideas, collaboration is a useful tool, especially when a specific expertise is needed (and available) and relies on factors such as a readiness to participate, mutual understanding, and the ability to manage interpersonal conflicts." Collaboration problem solving is very beneficial while dealing with complex problems (Hesse, Care, Buder, Sassenberg, & Griffin, 2015).

Many obstacles contribute to crippling EFL teachers in applying HOTS with their students effectively. Such obstacles discourage teachers to utilize HOTS in their classrooms. Teachers might implement them in the wrong way or might avoid them at all while teaching any skills. This leads to focus only on the teacher's center approach rather than the students' center ones through which the traditional way is dominated. Hence, teaching is entirely based on memorization rather than teaching their students how to think critically. This in turn will affect negatively students' way of obtaining knowledge due to their ignorance of employing higher-order thinking skills in learning. Shortage of time, lack of training, lack of knowledge, and negative perception about the efficiency of higher-order thinking concepts can be the most challenges that teachers might face if they want to conduct higher-order thinking strategies in their classrooms (Aghajani & Gholamrezapour, 2019; Snyder & Snyder, 2008). In addition to that, it is difficult for teachers to assess students' HOTS as there is no practical way to do such assessment (Bissell & Lemons, 2006).

Therefore, it is very essential to consider the different taxonomies to develop the students' HOTS (Alkharusi et al., 2019). This can be done by training teachers on how to teach HOTS to improve their students' level of thinking. That means without enough knowledge and

authentic training and practice, obtaining rigorous critical thinking skills are scarce. It will be difficult for EFL learners as well as teachers to achieve the basic requirements of HOTS notably applying them in both academic life and real life. AlKhoudary (2015) states that although the EFL teachers advocate utilizing HOTS in the English classroom, they ignore how to teach it. Therefore, HOTS need to be integrated into the curriculum and teachers need to be trained on how to implement them in their classrooms. To overcome such challenges, many different HOT strategies and other possible solutions have been suggested by scholars like Active Learning Strategy, Scaffolding strategy, Socratic Questioning Strategy, and Discussion and Collaborative learning strategy. Hence, the purposes of this paper are as follows:

- To shed light on the aspects of HOT by focusing on the challenges that teachers face while employing HOTS.
- To suggest some probable solutions and strategies that might have a contribution to facing the challenges of implementing HOTS in the learning and teaching process.

In general, the paper discusses the importance of HOTS in improving the learning and teaching process by focusing on the crucial role of the proposed strategies in enhancing both teachers' and learners' ability in utilizing HOTS effectively.

Methods

A systematic literature review was conducted following the procedure detailed by Popay et al. (2006) in which the literature was searched following a predefined procedure. Studies were selected using predefined criteria, and the data were extracted and synthesized.

Design of the Search Procedure

The online databases Eric, PsycInfo, Web of Science, google scholar, and Scopus were searched, because these contain relevant scientific literature on educational research in general, and were, therefore, most likely to house studies on HOTS. Keywords were derived from a database thesaurus and those found in selected key articles. Queries were refined through pilot searches during which different combinations of keywords in the title, abstract, and keyword fields were entered across databases to determine if relevant articles would be identified. The results were inspected for different articles on HOTS, and the search procedure was refined accordingly. For instance, the pilot queries revealed that key articles would be missed if EFL learners, EFL teachers, HOTS were required in the title, abstract, or keyword search (Step 1). So, to reduce the risk of omitting relevant studies, the use of this inclusion criterion was postponed to the full-text search (Step 2); in the database query (Step 3), (synonyms for) a broader term, higher-order thinking, were used. The search was completed in January 2021.

Selection Process

First, titles, abstracts, and keywords were searched using Boolean operators for combinations of the keywords: EFL learners; EFL teachers' barriers; Higher-order thinking skills; HOTS; HOTS teaching strategies. The search was then limited to scientific journal articles (not just abstracts or meta-data) written in the English language. After removing duplicates, the search yielded a combined total of 141 unique articles. Second, articles that were not published in scientific journals included in the 2021 Social Sciences Citation Index were excluded. This listing was used as a proxy for scientific journal quality because these journals have demonstrated the robustness of their peer-review processes, as well as a production history according to their publication schedule, which is considered an indicator of journal

quality. The researcher added this proxy measure because the quality of the articles seemed to vary greatly, and through this measure, the journal quality could be guarded in a transparent, consistent, and efficient manner. The researcher also checked and confirmed that key articles were not omitted through this step.

Findings and Discussion

Barriers to Applying HOTS

Despite the interest among the researchers, theorists, and educators in HOTS, many scholars believe that HOTS cannot be assessed, or they have no certain way of doing so (Bissell & Lemons, 2006). Many schools want their students to think critically but it is hard for them to provide evidence to show that they comprehend critical thinking or even to prove that their students have learned how to do it. Some EFL teachers view that HOTS are only suitable to be utilized in math and science subjects rather than language courses (Yen & Halili, 2015). Aghajani and Gholamrezapour (2019) state that although HOTS is very essential for every aspect of life, it is required a long time to be developed.

As for the EFL learners, HOTS are still in their early stages (Aghajani & Gholamrezapour, 2019). In their study, Zorluoğlu, Kızılaslan, and Sözbilir (2016) state that chemistry curriculums are mostly covered the lower-level of thinking rather than providing a kind of balance between lower-level and a higher level of thinking. Most of the assessment questions provided to students are mostly focusing on the lower-order thinking objectives rather than the higher ones which in turn hinder the students' ability in thinking effectively (Olimat, 2015). Victoria Tuzlukova, Al Busaidi, Burns, and Bugon (2018) conducted a study at Sultan Qaboos University (SQU) in Oman to investigate the awareness of teachers of English of the term of critical thinking, its importance in applying it in the EFL English language classrooms, and its relation to English language proficiency. The study depended on conducting the survey and collecting some ‘concrete examples’ from classrooms. It revealed that most of the EFL teachers of English strongly believe in the vital role of HOTS in fostering the English language in the classrooms and they are aware of the conceptual terminology of HOTS as well as its relationships to the English language. However, Al-Kindi and AL-Mekhlafi (2017) tried to explore if EFL teachers are practicing HOTS in their EFL classrooms and the obstacles they might face during their teaching of the English language. It showed that the teachers are seldom implementing strategies that help to activate HOTS in their classrooms.

EFL teachers face many challenges that discourage them from utilizing HOTS in their classrooms. These challenges involve teachers’ aspects, teaching and learning aspects, and students’ aspects (Seman, Yusoff, & Embong, 2017; Tyas, Nurkamto, & Laksani, 2019). Regarding the first aspect, studies confirm that the teachers have only limited knowledge about HOTS (Tyas et al., 2019). Many teachers also ignore the main skills in teaching HOTS and they often stack with the traditional methods in teaching (AlKhoudary, 2015). Such aspects could be regarded as the greatest challenge that teachers might face and hamper them from applying HOTS effectively. This limitation might lead them to not have enough knowledge in designing HOTS assignments (Tyas et al., 2019). Some reasons could contribute to creating such difficulties namely teachers’ ignorance about HOTS and lack of teachers' awareness about the importance of HOTS (Ginting & Kuswandono, 2020). Accordingly, EFL teachers also will not be able to provide their learners with effective HOTS instruction and strategies. They might face challenges in designing effective activates and plans based on HOTS or they might face the problem of managing their time and how to make a balance that helps them to achieve their goals or to cover the syllabus on time (Seman et al., 2017).

Furthermore, teachers' wrong methods in teaching and the techniques followed in questioning may contribute to preventing learners from obtaining their goals (Ali Sulaiman, Swanto, & Din, 2018). This is due to the lack of a professional development program that enhances teachers' implementation of HOT techniques in the classroom (Al-Kindi & AL-Mekhlafi, 2017; V Tuzlukova, Al Busaidi, & Burns, 2017).

The second aspect of challenges is the shortage of learning and teaching materials. Such deficiency could prevent the teachers from utilizing HOTS effectively in their EFL classrooms (Tyas et al., 2019). Al-Kindi and AL-Mekhlafi (2017) add that the coursebook usually does not provide enough HOT tasks and its provided instructions are not enough in explaining the theories of HOTS. Similarly, Al-Abri, Abu-Rahmah, and Al-Humaidi (n.d) accentuate that there is no authentic evaluation of English coursebooks. Furthermore, by looking through all English coursebooks in Oman for example, the coursebook depends on communicative-based skills (Al-Issa & Al-Bulushi, 2012). However, Victoria Tuzlukova et al. (2018) argue that this communicative approach has no role in improving learners' English language and it should be replaced by metacognitive skills such as "critical thinking skills, creative problem-solving skills, and decision-making skills." Similarly, Al Mamari, Al-Mekhlaf, and Al-Barwani (2018) argue that there is no association between the coursebook communication approach and the students' test. The tests are provided for students who lack communicative skills. Therefore, the English curriculum should be designed skillfully and creatively to help teachers plan their HOTS lessons. Otherwise, it will be difficult for them to cope with the curriculum while using HOTS. The teachers are also worried about not achieving the other learning and teaching objectives on time if they try to infuse HOTS in their lesson (Seman et al., 2017). That is due to the heavy content of the coursebook and the heavy burden of the other extra-curricular activities given to teachers (Al-Kindi & AL-Mekhlafi, 2017). For instance, the minimum number of teaching lessons for teachers in Oman per week is 20 besides other administrative and ex-curricular responsibilities. Sometimes, the teachers in some schools can take more than 28 lessons per week if there is a shortage of teachers in that school (Al-Issa & Al-Bulushi, 2012). Likewise, many reasons can stand behind the lag of EFL learners obtaining higher-order thinking skills. For example, there is no real communication among teachers, parents, and the school. Also, the educational media is not playing a strong role in providing enough knowledge about HOTS (Al-Kindi & AL-Mekhlafi, 2017). Therefore, they should have proper methods and strategies to help them deal with HOTS efficiently.

The last aspect of the HOTS challenge is the students' heterogeneity of cognitive competence. Such heterogeneity can create a kind of challenge in improving instruction during teaching HOTS (Seman et al., 2017; Tyas et al., 2019). For instance, the teachers can face challenges while teaching HOTS with low achievers who have not yet achieved the basic skills that help them to deal with more complex HOTS. This will force them to spend longer time with them (Seman et al., 2017). Ginting and Kuswandono (2020) mention that EFL students' have limited abilities to cope with the questions based on HOTS. Mehta, Al-Mahrooqi, Denman, and Al-Aghbari (2018) conducted a study to assess whether the first-year students in the government university in Oman have obtained adequate HOTS during studying in schools. The experimental analysis of the test revealed that the students have failed to meet the critical thinking requirement and their level was equal only to grade four students' level in the United States of America. Besides that, the big size of the classrooms often discourages the teachers from utilizing HOTS in EFL classrooms (Al-Kindi & AL-Mekhlafi, 2017). In such big classrooms, students usually have different interests and different styles in learning which causes a kind of challenge for EFL teachers to deal with them. This in turn will force the teachers to work

hard to cope with such multifarious cases while teaching HOTS (Aziz, Ismail, Ibrahim, & Samat, 2017). Therefore, a reasonable number of students in each classroom should be taken into consideration (Sulaiman et al., 2017).

In general, Snyder and Snyder (2008) summarize these barriers by listing four main obstacles that incorporate the integration of HOTS in education.

1. **Lack of training:** the teachers are not trained on how to teach using higher-order thinking methods.
2. **Lack of information and knowledge:** few instructional materials are given to the teachers and there is a lack of higher-order thinking resources.
3. **Preconceptions:** both teachers and students have assumptions that immobilize their ability to use higher-order thinking skills effectively.
4. **Time constraints:** a great deal of the curriculum's and its content required the teacher to finish it within a short period.

Strategies Related to HOTS

In response to the necessity of empowering both EFL learners and teachers with HOTS and based on the awareness of the importance of obtaining HOTS, many researchers highlight the importance of infusing HOTS in teaching. They attempt to investigate different instinctual and constructive theories and methods leading to utilize critical thinking skills successfully. Due to its essential role in improving the basic education system in public schools, critical thinking, as part of the HOTS, is often key merit of Oman's universities and colleges alumni in Oman (Mehta et al., 2018). To overcome the problem of the lack of HOTS among EFL learners, Al-Kindi and AL-Mekhlafi (2017) recommend that EFL teachers need to develop critical thinking methods in their teaching of different English language skills. They should have sufficient awareness and knowledge about HOTS in order to assist the EFL learners to cultivate HOTS (Tyas et al., 2019). They should also grip any current changes so that they can build a kind of flexibility in learning and accepting the changes (Seman et al., 2017).

Due to teaching and learning materials' barriers, it is very important to provide materials as well as the media to promote EFL teachers to use and to understand HOTS in the teaching and learning process (Tyas et al., 2019). Nevertheless, it is fundamental to provide adequate training for teachers to implement it well in the classroom and to know how to deal with the targeted material and language course books (Victoria Tuzlukova et al., 2018). Mehta et al. (2018) also suggest revisiting the national school curriculum by infusing HOTS activities into the students' textbooks. Al-Abri et al. (n.d) and Victoria Tuzlukova et al. (2018) advocate that EFL textbooks should involve teachers, curriculum developers, textbook writers, supervisors, parents, and even students in the evaluation process to bridge the gap between designers and implementers of the curriculum. Teachers need to be trained on how to evaluate the course books by providing authentic training through presenting different workshops about HOTS' different concepts (Seman et al., 2017; Tyas et al., 2019). Additionally, Al-Abri et al. (n.d) suggest providing an in-house evaluation of English coursebooks rather than depending on the Ministry of Education's general evaluation.

Due to the EFL learners' limited ability to deal with HOTS, Tyas et al. (2019) suggest improving their second language competency first through improving their reading comprehension in particular. Nevertheless, AlKhoudary (2015) argues that not only EFL reading comprehension is needed to be improved but all the main four skills of the English language namely reading, writing, listening, and speaking. Based on that, AlKhoudary (2015) tends to explore if writing influences improving students' HOTS. The study shows that the teacher advocate utilizing

HOTS in the writing English classroom. Thakur and Al-Mahrooqi (2015) also conducted a study aimed to examine the influence of using cartoons as one of the most significant visual aids in promoting HOTS in teaching the English language for EFL learners. It showed that cartoons can be used in the language classroom in group work activities.

In addition to that, researchers have recommended many different instructional strategies that can play a great role in assisting EFL teachers to promote learners' HOTS. The next section highlights four main strategies namely Active Learning strategy, Scaffolding strategy, Socratic Questioning strategy, and Discussion and Collaborative learning strategy.

a. Active Learning Strategy

Active learning is based on fostering students to participate, interact, discuss and think during the classroom rather than being only just listeners for the lectures. Therefore, active learning could be defined as active instructions given to students during their classroom and encouraging them to do things and think about what things to do (Bonwell & Eison, 1991). Active learning strategies have a positive impact on developing students' higher-order thinking, creativity, and problem-solving (Romadhoni & Nurlaela, 2018). In addition, Kim, Sharma, Land, and Furlong (2013) state that using active learning strategies such as small-group learning with authentic tasks, scaffolding, and individual writing is very useful in promoting students' critical thinking. Besides that, using a smart board in the classroom could enhance and facilitate the implementation of active learning strategies, which will improve students' HOTS. Strategies such as Role Play, Jigsaw, Brainstorming, Debate, Concept Mind Map, Discussion, Quiz, and Puzzles could also represent and provide an active learning environment (Asok, Abirami, Angeline, & Lavanya, 2016). Hence, there is a strong relationship between active learning and HOTS.

b. Scaffolding strategy

Scaffolding could be defined as the students getting support from teachers, parents, computer programs, and software or paper-based tools (Amerian & Mehri, 2014). By getting that support, students will gain some skills that help them to deal with difficult tasks (Belland, 2014). However, teachers need to realize the suitable time that they should introduce scaffolding (Gonulal & Loewen, 2018). They have also to be aware of their goals before implementing scaffolding. Scaffolding instructions is originated from Lev Vygotsky's sociocultural theory and the concept of the zone of proximal development (ZPD) (Amerian & Mehri, 2014). Wass, Harland, and Mercer (2011) point out that through scaffolding, the student's zone of proximal development is maximized and they become more independent learners. Scaffolding has a crucial role in teaching and learning by helping students to build their concepts (Gonulal & Loewen, 2018). It can be used as a practical tool for teachers as well due to its connection with sociocultural theory (Amerian & Mehri, 2014).

Besides, the scaffolding strategies have a great influence on enhancing students' HOTS (Alrawili, Osman, & Almuntasheri, 2020). This could be done by engaging students in more complex situations and tasks (Belland, 2014). Therefore, students need to use thinking skills through scaffolding strategies and real-life issues rather than just depending on memorization (Alrawili et al., 2020). Gonulal and Loewen (2018) state that scaffolding could be used in many different ways in teaching the English language like modeling, bridging, contextualizing, schema building, re-presenting text and developing metacognition. In modeling, the teacher provides some tasks as an example and then asks the students to complete the rest of the tasks or activities. In the bridging strategy, the teacher activates the student's prior

knowledge by connecting it to the new concepts to create a kind of individual or personal knowledge. The teacher can contextualize teaching language by using verbal and non-verbal aids like pictures, videos, and images. In the schema, the teacher encourages students to connect the new information with the existing ones. In metacognition, the teacher nurtures learners' autonomy and metacognition through some strategies like self-assessment and think aloud. Thus, scaffolding could have an impact on students' HOTS.

c. Socratic Questioning Strategy

Socratic questioning (SQ) is one of the effective techniques used in teaching and learning environments to enhance HOTS (Kost & Chen, 2015; Zare & Mukundan, 2015). Fahim and Bagheri (2012) state that Socratic questioning helps students to promote their HOTS rather than just learning by memorization. It is one of the means that help to improve learning through facilitating new ideas and discovery (Kazantzis, Fairburn, Padesky, Reinecke, & Teesson, 2014). Nappi (2017) points out that questioning is very crucial for successful learning and teaching. It helps teachers to assess their students' understanding and enhance the students' HOTS. Similarly, G. Anderson and Piro (2014) suggest that combining Socratic questioning, dialogue and the Universal Intellectual Standards enhance students to understand and discuss the most complicated topics. Furthermore, Paul and Elder (2019b) suggest that the teacher can help students to have a discussion based on SQs by assigning one student to lead the discussion. SQ lists can be provided for all students as a guide during their discussion. This guide is based on three main elements and some other sub-elements. The participants during the discussion should focus on the elements, systems, and standards for thought. Another student could be appointed by the teacher as an observer for the discussion to provide that teacher with feedback depending on the same list of Socratic questions. Yusoff and Selman (2018) list three types of questions namely simple questions, questions answered through experimental researches, and philosophical complex questions. SQs could resemble the latest type which promotes students' HOT and cognitive skills.

Many studies have attempted to investigate the impact of Socratic questioning on EFL learners' HOTS. For example, Ali Sulaiman et al. (2018) investigated the implementation of (SQ) on learners' critical thinking in the English language classroom as a foreign language (EFL) in Omani post-basic classrooms. The researchers concluded that the experimental group can develop the strategy of CT, and the learners gain more scores by applying SQ strategies. Another study has been conducted by Yusoff and Selman (2018) on nine primary school teachers in Terengganu, Malaysia. It revealed that only half of the teachers are implementing a questioning strategy based on higher-order thinking and Bloom Taxonomy correctly in their classroom. Evidence also shows that teachers use only a few questions in the classroom that promotes HOT (Nappi, 2017). Hence, teachers need to be patient and take enough time while dealing with Socratic questions (Paul & Elder, 2019b).

Discussion

Discussion is another strategy that can boost learners' HOTS and it is defined by involving some people to talk about a particular topic. Such talk could be done through debate, reasoning, argument, or even open-ended questions. It could be done through the interaction between the teacher to students or students to students through cognitive activities to produce information and give the students chance to talk and express their opinion (Al-Jarf, 2005). Discussion strategy proves its powerful in improving students' problem-solving and creativity skills (Setianingsih, Sa'dijah, As'ari, & Muksar, 2017). Indriyana and Kuswandono

(2019) point out that creating, evaluating, and analyzing are important skills and should be developed to improve the students' HOT through group discussion. Furthermore, Blings and Maxey (2017) state that group discussion is effective because it allows students to exchange ideas, correct each other, and allow the teacher to ask for extra responses.

The discussion is usually implemented through cooperation and collaboration among the involved members. Some scholars shed light on the successful role of collaboration work in developing EFL learners' HOTS. A recent study aimed to examine the effectiveness of collaboration of Jigsaw and problem-based learning (PBL) model in developing students' critical thinking skills on 37 accounting students of class XI in Indonesia. The study concluded that the implementation of collaboration of Jigsaw and problem-based learning model is effective in improving the accounting learners' critical thinking skills (Saputra, Joyoatmojo, Wardani, & Sangka, 2019).

However, EFL learners might face some challenges while engaging in a discussion such as language barriers, individual matters, and academic culture differences. To overcome such barriers, learners should take into consideration obtaining the verbal response, using learning sources, and maintaining a positive motivation (Abrar & Mukminin, 2016). To achieve improvement in utilizing discussion in the classroom, the teacher needs to plan well for discussion lessons and to set goals (Setianingsih et al., 2017). Similarly, Indriyana and Kuswandono (2019) advocate that teachers through such a strategy can introduce the process of analyzing the text and explain it well. Then, the students are required to work with their peers to analyze the given task. By the end of the group discussion, each student needs to present their findings. Meanwhile, Setianingsih et al. (2017) suggest that students need to work within the Zone of the Proximal Development (ZPD) and the teacher needs to organize the students into the heterogeneous group. The members of such groups support each other in exchanging ideas and ways of thinking. By the end, the teacher asks each student to summarize their ideas by talking in front of the students in the classroom. Hence, these strategies supported by some previous studies showed their effectiveness in promoting EFL learners' HOT and critical thinking by developing their performance in learning and acquiring knowledge.

Table 1
Barriers Related to Teachers and Teachers' Perspectives

No		Barriers
1	Barriers Related to EFL Teachers'	• Limited knowledge and ignorance of the importance of HOTS (Ginting & Kuswandono, 2020; Seman et al., 2017; Tyas et al., 2019).
2		• Following wrong methods in teaching and the techniques followed in questioning (Ali Sulaiman et al., 2018)
3		• Teachers' preconceptions keep their stack with the traditional methods in teaching (AlKhoudary, 2015).
4		• Their students failed to meet the critical thinking requirements and to cope with the questions based on HOTS (Ginting & Kuswandono, 2020).
5		• Having a high number of students in a classroom (Al-Kindi & AL-Mekhlafi, 2017; Aziz et al., 2017).
6		• Students' heterogeneity (Seman et al., 2017; Tyas et al., 2019).
7		• Students' wrong preconceptions about HOTS (Snyder & Snyder, 2008).

Table 2
Possible Solution Related to Teachers and Teachers' Perspectives

No		Possible Solution
1	Possible Solutions related to EFL Teachers'	• The teachers need professional development and workshops that provide them with sufficient awareness and knowledge about HOTS (Victoria Tuzlukova et al., 2018).
2		• Utilizing various HOTS' methods and strategies that are based on student's teaching-cantered rather than teacher's teaching cantered like Active learning Strategy, Socratic questioning, scaffolding, and discussion strategies(Alrawili et al., 2020; Asok et al., 2016; Indriyana & Kuswandono, 2019; Paul & Elder, 2019a).
3		• Teachers need to be flexible by absorbing any current changes and that is by mastering various knowledge in any field (Seman et al., 2017).
4		• Students need to use thinking skills through scaffolding strategies and real-life issues rather than just depending on memorization. They need to improve their second language competency first through improving their listening, speaking, writing, and reading comprehension (AlKhoudary, 2015; Alrawili et al., 2020; Tyas et al., 2019).
5		• To raise the effectiveness of the teacher, a logical number of students in the classroom should be considered (Sulaiman et al., 2017).
7		• Classroom discussion is necessary to solve the heterogeneity of learners and to develop various HOTS methods in teaching (Setianingsih et al., 2017).
8		• Motivating EFL learners toward learning the language through group/pair work activities, brainstorming, and other strategies like using cartoons(Asok et al., 2016; Thakur & Al-Mahrooqi, 2015).

Table 3
Teachers' Barriers Related to the Teaching and Learning Materials

No		Barriers
1	Teaching and Learning Materials' Barriers	• Limitation of HOTS' tasks, instruction, and strategies in the coursebook (Al-Kindi & AL-Mekhlafi, 2017).
2		• No authentic evaluation of English coursebooks (Al-Abri et al., n.d).
3		• No association between the coursebook approach and the students' test (Al Mamari et al., 2018).
4		• A heavy coursebook (Al-Kindi & AL-Mekhlafi, 2017).
5		• Lack of communication between teachers, parents, and school (Al-Kindi & AL-Mekhlafi, 2017).
6		• limited role of the educational media (Al-Kindi & AL-Mekhlafi, 2017).

7		• Shortage in teaching and learning materials (Tyas et al., 2019).
8		• Overloaded with a big number of teaching lessons and extracurricular activities (Al-Kindi & AL-Mekhlafi, 2017).

Table 4
Possible Solutions Related to the Teaching and Learning Materials

No		Possible Solutions
1	Teaching and Learning Materials' Solutions	• Infusing HOTS activities and different strategies in the students' textbooks (Tyas et al., 2019).
2		• There should be an in-house evaluation for English course books rather than depending on the ministry of education's general evaluation by involving teachers, curriculum developers, textbook writers, supervisors, parents, and even students in the evaluation process (Al-Abri et al., n.d; Victoria Tuzlukova et al., 2018).
		• Training teachers on how to evaluate the course books through attending different workshops about HOTS different concepts (Seman et al., 2017; Tyas et al., 2019).
.3		• The curriculum needs to be designed creatively and skilfully (Al Mamari et al., 2018).
4		• Revisiting the national school's curriculum (Mehta et al., 2018).
5		• Cooperation between parents, teachers, and school through conducting parents' meetings and seminars (Al-Kindi & AL-Mekhlafi, 2017).
6		• Educational media should have an active role in providing enough knowledge about HOTS (Al-Kindi & AL-Mekhlafi, 2017).
7		• Providing different materials that promote implementing HOTS in the classroom and training teachers on how to implement it well in the classroom to know how to deal with the targeted material and language coursebooks (Victoria Tuzlukova et al., 2018; Tyas et al., 2019).
8		• Reducing the number of teaching lessons and extracurricular activities given to teachers(Al-Kindi & AL-Mekhlafi, 2017).

Significance of The Study

The current research is significant because it reviews the barriers that demotivate EFL teachers and learners from utilizing HOTS strategies in their teaching and learning. It also suggests for them some of the typical strategies for overcoming those HOTS obstacles. Therefore, the findings of the study are expected to contribute to promoting teaching English as a foreign language, curriculum designers, and the test makers in the area of HOTS. Integrating multiple HOT skills and strategies for teaching various English language skills, will aid EFL learners in their acquisition of the English language and the development of their

critical thinking skills. This, in turn, will assist them in avoiding future challenges in their advanced academic level and professional life.

This research will most likely benefit teachers and other educators. They will be aware of how and when to equip their learners with successful HOT skills and appropriate strategies. The other educators will be encouraged to utilize HOTS in other subjects or at different levels of education. This study's findings can also assist curriculum designers, test producers, and Ministry of Education (ME) stakeholders in recognizing HOTS barriers. They will also be given information on the efficacy of using HOTS as well as ways for improving EFL learners' HOT skills. This will inspire them to infuse HOT skills and methods into the curriculum, and it will serve as a valuable guideline for teachers.

Conclusion and Recommendations

This paper aimed to review the HOTS and their related concepts by investigating the challenges of applying higher-order thinking in EFL classrooms. By doing so, the study suggested some possible suggestions and effective strategies that help EFL teachers to overcome such barriers. This in turn would lead to promoting EFL students to develop their HOTS. Based on the essential role of HOTS in the learning and teaching process, it is highly recommended to develop HOTS for EFL students at an early age. Equipping EFL students with HOTS in the early level English courses will promote them with critical thinking skills in their university studies. However, it would be preferable to make sure that the EFL learners have the basic skills of the language before integrating HOTS. The deficiency in the second language could hinder the teachers from utilizing HOTS effectively and hinder the students to cope with HOTS. Teachers also need to have authentic training on how to utilize HOTS and strategies in their EFL classrooms. It is also essential to involve teachers, curriculum developers, textbook writers, supervisors, parents, and even students in the evaluation process of the textbook. Curriculum designers have to infuse different HOTS activities and strategies while designing the EFL curriculum as well as providing a clear guideline for the teachers to follow.

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