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English Teachers' Perceptions of Higher Order Thinking Skills

Percepciones de los Profesores de Inglés sobre las Habilidades de Pensamiento de Orden Superior

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ABSTRACT

English as a Foreign Language (EFL) teachers require appropriate skills to meet 21st century challenges such as global competitiveness, globalization, and rapidly media-saturated environments. Thus, it is necessary for EFL teachers to understand and implement Higher Order Thinking Skills (HOTS), such as critical system thinking, decision-making, and problem solving. The purpose of this study was to determine EFL teachers' understanding and implementation of HOTS. An explanatory sequential design was used in the study, which included a survey and semi-structured interviews with 20 EFL teachers from a teacher education program in Southeast Mexico. The findings indicate that teachers are aware of the importance of HOTS-focused learning and teaching in order to meet today's challenges, but that their knowledge of HOTS still needs to be expanded. This entails cultivating a positive awareness of the importance of HOTS in order to foster the need for pre-service education that emphasizes the aspects of HOTS.

KEYWORDS:

Perception, Pre-service EFL Teacher, Higher Order Thinking Skills, 21st Century skills, Teacher Education

RESUMEN

Los profesores de inglés requieren habilidades adecuadas para enfrentar los desafíos del siglo XXI, como la competitividad global y los entornos rápidamente saturados de medios. Esto hace necesario que dichos profesores entiendan e implementen habilidades de pensamiento de orden superior (HPOS), como el pensamiento crítico, la toma de decisiones y la resolución de problemas. Se utilizó un diseño secuencial explicativo, que incluyó encuestas y entrevistas semiestructuradas con 20 profesores de un programa de formación docente en el sureste de

México con el propósito de determinar su comprensión e implementación de HPOS. Los hallazgos indican que los docentes son conscientes de la importancia y el aprendizaje que enfatiza los aspectos de HOTS, pero que este conocimiento aún necesita ser desarrollado. Esto implica cultivar una conciencia positiva de la importancia de HOTS para fomentar la necesidad de una educación previa al servicio que enfatice los aspectos de HOTS.

PALABRAS CLAVE:

Percepción, Maestro de inglés en formación, Habilidades de pensamiento de orden superior, Habilidades del siglo 21, Formación de Profesores

INTRODUCTION

As reported by the OECD (2019), educational policies around the world have highlighted that high order thinking abilities are essential for the future development of global economy. According to the OECD (2019), critical thinking, tolerance, and rationality are crucial to individual and interpersonal well-being in an expanding global environment. According to Scott (2017, as cited in Retnawati et al., 2018), students at all levels of education need to develop their critical thinking system, decision-making skills, and problem-solving abilities. It is equally important that students learn to connect and communicate with other people as well as to learn how to apply the knowledge acquired in the classroom to new contexts (Retnawati et al., 2018). Therefore, the efforts to improve educational systems and curricula should include the diverse and demanding requirements of 21st-century needs.

The OECD (2019) has identified three main frameworks of 21st-century skills: 1) learning and innovation skills, 2) life and career skills, and 3) information, media, and technology skills. Communication, teamwork, critical thinking, and creativity skills are included within learning and innovation abilities. Likewise, flexibility and adaptability, initiative and self-direction, social and cross-cultural skills, productivity and responsibility, leadership, and accountability constitute life and career skills. These 21st-century skills can be divided into two key components: abstract abilities linked to thinking abilities (creative thinking and logical thinking) and practical abilities (communication and collaboration) (Retnawati et al., 2018). Several scholars have grouped these skills under the umbrella term of Higher Order Thinking Skills (HOTS) (Fanani, 2018; Heffington, 2019; Shukla and Dungsungnoen; Yen and Halili, 2015). Analyzing, evaluating, and creating are the three top levels of cognitive development in Bloom's taxonomy, also referred to as HOTS. Schulz & Fitzpatrick (2016) concluded that students' HOTS must be developed in order to create world citizens with creative and innovative abilities

Considering its relevance, HOTS have become the focus of several investigations. Many teachers and researchers in the educational area have highly recommended enhancing learners' HOTS (Avargil, Herscovitz, & Dori 2012). On a practical level, teachers are encouraged to foster HOTS in the classroom since it is important to provide students with 21st-century competencies (Jerome, Lee, & Ting 2017; Yeung 2015). Li (2016) reports that given the relevance of HOTS in today's education, nations like England, Hong Kong, China and Malaysia, established educational policies to incorporate HOTS as learning objectives. Similarly, Thailand, Mexico, Russia, and Brazil are some of the countries with comparable projects (Li and Wegerif, 2014).

HOTS are inevitably important to develop students' critical thinking as well as creative thinking skills therefore its inclusion in the curriculum of most educational levels of education in Mexico. This is certainly the case of Mexican Higher Education Institutions (HEI) whose recent educational

models attempt to promote the development of students' critical and creative thinking by promoting HOTS-based teaching in the classroom. For instance, the university hosting this research project made mandatory a course called Creative and Critical Thinking Skills in all the programmes it offers.

Scholars suggest that HOTS and academic achievement are inextricably linked; that is, learners who use HOTS perform better in school than those who do not (Li and Walsh, 2011; Wilson and Narasuman, 2020). As a result, HOTS application is critical in today's education, mainly in instructional strategies (Cancino and Capredoni, 2020). According to Vu, Winser, and Walsh (2020), students' high cognitive capability positively influences their learning efficiency. As a result, it is indeed critical to upgrade the curriculum to incorporate contemporary professional 21st-century competencies. Consequently, investigating teacher educators' attitudes and knowledge of HOTS is essential to reform any curriculum as identification of the current situation is one of the most significant components for an effective change implementation.

Given the current relevance posited on HOTS, it is also important to incorporate them into the process of teaching and learning English as a Foreign (EFL) or Second (ESL) Language. According to Johansson (2020), HOTS are important for the process of learning a new language. Consequently, the field of English Language Teaching (ELT) has also been impacted (Antonio, Carrión & Lopez, 2021). Because English teachers have been asked to include activities that promote HOTS into the classroom, they must understand the idea. To use HOTS, teachers should involve students during a learning process that promotes activities beyond comprehension. It is therefore important for future English teachers to grasp and implement the idea of HOTS in their classrooms. However, the concepts of HOTS are too vague to guide teachers in teaching and assessing HOTS because the construct is abstract and multi-nature resulting in every teacher having different perceptions and knowledge about these skills (Heffington, 2019; Johansson, 2020). For students to compete on a global scale, HOTS must be integrated into teaching and learning activities. It is thus necessary for teachers to engage students during class activities to enhance their higher thinking skills. Nonetheless, as far as the researchers could find, no extensive examination of EFL teachers' knowledge and practices in incorporating HOTS in the classroom has been conducted in Mexico.

In the learning process, teachers play a vital role and it is important for them to be informed and prepared to use the current teaching trends to respond to the international educational agenda. In English as a Foreign Language (EFL) or English as a Second Language (ESL) teaching, educators have two fundamental responsibilities: to foster/create a meaningful atmosphere for language learning and to contribute to students' language and cognitive development. To do so, teachers use several techniques that can help the learning process to develop those skills successfully (Kusumastuti, Fauziati, & Marmanto, 2019). Nonetheless, teachers still lack abilities to develop HOTS when teaching. Numerous studies have been performed to investigate HOTS integration and promotion. However, there seems to be a scarcity of studies focusing on HOTS in Mexico. Furthermore, there is a lack of investigations exploring HOTS in EFL teacher education programs. Based on the previous information, this study aimed at finding out how EFL teachers in a public university in Mexico understand and conceptualize HOTS as well as to identify the implementation strategies used to develop such skills among students.

LITERATURE REVIEW

The role of HOTS in education

It has been acknowledged that developing students' HOTS is essential to create global citizens with innovative and creative skills (Schulz and Fitzpatrick, 2016). The need to find solutions to

complex problems in an interconnected world has increased the importance of twenty-first century skills (OECD, 2019), the development of such skills has become an essential goal for education in many parts of the world. Several studies report that HOTS have been inserted as the objectives of learning in Educational Policy in countries such as England in 1999, Hong Kong in 2000, Malaysia in 2003, and China in 2001 (Li, 2016). Other emerging countries, such as Thailand, Mexico, Russia, and Brazil, also have similar initiatives (Li and Wegerif, 2014). Consequently, and considering their relevance, HOTS have become the focus of several studies.

On a practical level, educators are suggested to encourage HOTS in the classroom since it is essential to equip students with 21st-century competence (Jerome, Lee, and Ting 2017b; Yeung 2015). Teachers are expected to include HOTS in 21st century pedagogy to promote deeper thinking skills among students. If students were involved in the thinking process, they could not only improve their achievement but also be better prepared to face the future demands (Miri, David, & Uri, 2007).

Many teachers and researchers in the educational area have highly recommended enhancing learners' HOTS (Avargil, Herscovitz, and Dori, 2012). According to Chinedu, Olabiyi, & Kamin (2015) HOTS can be taught and mastered, and all students have the right to learn and apply this way of thinking to problem-solving. When students are able to build and incorporate HOTS into their learning practices, they have demonstrated they can be developed.

Strengthening cognitive systems encourages students to maintain data longer and theories provide students with a fundamental framework to construct new ideas. Some researchers found out that the setting and teaching for specific purposes promote HOTS (Miri, David and Uri, 2007). Previous studies have proposed unique methods such as investigation, problem solving and the learning cycle to enhance HOTS of students (Chinedu, Olabiyi, & Kamin, 2015).

Besides, Saido, Siraj, Nordin, & Al-Amedy, (2017) found out that a learning style based on research allows students to use cognitive abilities such as experimentation, reflection, and idea sharing. The investigation approach helps both students and teachers. Students demonstrate independent learning by providing cognitive scaffolds that enable them to activate HOTS. In addition, problem solving a reasoning skill suggested by many experts to improve the exercise of HOTS abilities by students (Saido, Siraj, Nordin, & Al-Amedy, 2017). Students' development of HOTS can be achieved through the active role of teachers in the preparation, implementation, and assessment of HOTS-oriented learning. That is to say, the development of HOTS depends greatly on the teacher's knowledge and ability to implement suitable activities. However, research findings suggest that teachers still face some difficulties, particularly when training their students in HOTS. (Indriyana and Kuswandono, 2019; Ramdiah, Abidinsyah, Royani, and Husamah, 2019; Retnawati, Djidu, Kartianom, Apino, and Anazifa, 2018).

As previously described, the goal of improving and enhancing students' HOTS has been a major educational goal for decades. Even though the idea of HOTS was established in the educational system, it has yet to be completely applied in classroom teachings or implemented holistically. Only teachers' determined efforts to have a high degree of student autonomy and engagement seem to influence students' reasoning abilities (Ganapathy & Kaur, 2014). Tanujaya, Mumu, and Margono (2017) found out that there is a strong and positive relation concerning HOTS and students' academic performance; that is, students who have high HOTS tend to have better academic success in their mathematics achievement scores/learning.

Some studies conducted in other areas indicate that there is a necessity to improve teachers'

knowledge of HOTS (Ansori and Suparno, 2019; Saido, Siraj, Nordin, and Al_Amedy, 2018). It can be inferred from the discussion above that there is still room for research on HOTS as the findings seem not to be conclusive enough.

HOTS in EFL settings

As the relevance of HOTS to meet the requirements of 21st century skills grows, the issue has gained some predominance in the last few years in the EFL/ESL field (Antonio, Carrión & Lopez, 2021). According to research in the EFL/ESL field (Johansson, 2020), HOTS are vital for the process of learning a new language. As a result, it is critical for ELT teachers and future English teachers to understand and implement HOTS in their classrooms. Several studies have looked into how teachers understand and use HOTS in the EFL classroom, in what follows, some are presented below.

From the myriad of studies, some researchers have studied the use of technology to promote HOTS (Johansson 2020; Riza and Setyarini, 2020; Setiawati and Setyarini, 2020) to conclude that current technologies provide invaluable tools for effectively facilitating higher order thinking. Furthermore, each study reports on different implementation techniques, which appears to support the notion that HOTS can be taught and developed with careful planning and implementation. Similarly, scholars have studied the effect of online learning/teaching on HOTS development (Hasibuan, Setyarini & Purnawarman, 2020; Mulyanti, 2021; Triana & Nugroho, 2021); from these studies, it can be concluded that the learning patterns resulting from this instruction modality positively impact students' cognitive and psychomotor abilities. However, it was also noted that students need computing training to fully take advantage of the learning mode and that teachers should receive HOTS training.

Another group of academics has focused on the role of questioning in the promotion of HOTS amongst students (Fadilah & Zainil, 2020; Panggabean & Asariski, 2021; Silalahi, et al., 2021; Yude & Zainil, 2021). The findings of these studies appear to support that the types of questions used by EFL teachers have a positive impact on cultivating higher order thinking in students.

Some other scholars have analyzed the effect of particular teaching approaches to implement HOTS in the EFL classroom (Setyarini, 2020; Susanti, et al., 2020; Telaumbanua, 2020); These findings also ratify that higher order skills can be learned or developed in the language classroom when they are given relevance; that is, when teachers devote time and effort to their careful integration into the language lesson.

Other studies have focused on the role of the textbook (Hambali, Mirizon & Heryana, 2021; Tyas, Nurkamto & Marmanto, 2020) to find out that ESL/EFL textbooks still need to improve as activities are more oriented towards lower thinking skills. (Ariska, Gustine & Setyarini 2021) found out that when the teacher's feedback functions as scaffolding and they praise students' work, HOTS can be promoted.

Considering that HOTS can be learned, some researchers have devoted to investigating the effect of assessment in the promotion of these skills. (Johansson, 2020), the implementation of assessment strategies (Utami, 2020) and the challenges EFL teachers face when implementing HOTS assessment (Abkary, & Purnawarman, 2020). The findings so far suggest that more focused work should be done in preparing EFL teachers to craft HOTS more effective assessment techniques as there is still a tendency to evaluate using lower order thinking skills.

Perhaps the area which has received more attention is that related to the teachers' role in the

implementation of HOTS (Utami, Nurkamto, Marmanto & Taopan, 2019); the knowledge EFL teachers possess about HOTS (Ardini, 2017; Baker, 2020); but notably teachers' perceptions and practices (Assaly & Jabarin, 2021; Brilian, 2020; Pasutri, 2021; Pasutri, Bukhori & Helmiati, 2021; Rachmawati, Purwati, & Setiawan, 2021) while others particularly on the challenges they face (Ginting & Kuswandono, 2020). The findings from these studies appear to indicate that, even when HOTS have been incorporated into the national curriculum and there are official guidelines to support their development, EFL teachers understand the concept but have yet to master implementation techniques. Training, as some of these authors suggest, is still required to consolidate teachers' implementation techniques.

The findings appear to indicate that teachers still require preparation in order to implement effective classroom activities that lead to the development of higher skills, as well as appropriate assessment skills. In terms of materials, textbooks must improve the questions they use, as they continue to promote lower thinking skills. Nonetheless, the findings of the studies presented here appear to support the notion that HOTS can be taught when they are integrated into lessons, which can be aided by technology-enhanced activities, appropriate questioning techniques, and/or specific teaching strategies.

RESEARCH METHODOLOGY

The case study design aims to understand a specific phenomenon or situation by describing how the individuals involved in each case or problem experience said situation (Narváez, Estrada, Núñez & Marín, 2017). In a case study approach, the researcher studies a specific case or cases which belong to a specific group by using data collection techniques that allow for in-depth and detailed data emanating from various sources of information (Wellington, 2015).

Considering the aims of the study, an explanatory sequential design was adopted. According to Creswell & Creswell (2020), explanatory sequential design involves two phases: the first is of quantitative nature and the second is qualitative. The use of the explanatory sequential design was evident in the administration of an online survey and semi-structured interviews. The combination of data collection methods not only enriched the findings of the case study in question but also provided the researcher with reliable data validation, generating a more complete understanding of participants' perceptions about HOTS awareness and implementation in the research setting.

Participants

For the quantitative part of the study 11 English teachers working at different schools, both public and private, answered an online survey. For the qualitative part, 9 were interviewed. They are between the ages of 22 to 40 and have been teaching for 3 to 15 years. All of them were currently studying a master's degree in English teaching.

FINDINGS

Table 1 provides the general outcomes on teachers' knowledge and strategies of HOTS.

	Strongly Agree	Agree	Disagree	Strongly Disagree
I understand what HOTS are.	4	3	2	-
I am familiar with Bloom's taxonomy.	2	4	2	-

I am interested in implementing HOTS through my lesson.	5	4	-	-
I emphasize HOTS as a key element to writing my lesson planning.	2	5	2	-
It is important to integrate HOTS into the lessons	5	4	-	-
I know how to integrate HOTS in learning activities in my lessons.	-	5	4	-
I understand that integrating HOTS in my lessons fosters its learning objectives.	4	5	-	-
I believe that integrating HOTS in my lessons help to develop students' creativity, critical evaluation and problem-solving skill.	5	4	-	-
I believe that the integration of HOTS element in the classroom will help students to learn effectively.	5	4	-	-
It will not make any difference toward students' learning when HOTS items are integrated in my lessons.	2	2	3	2
I am interested in attending courses and workshops related to HOTS.	5	4	-	-
My aim is to produce HOTS modules related to my subject.	2	7	-	-
I consider that all students are capable of developing HOTS.	3	5	1	-
I know how to prepare questions to foster HOTS.	-	4	5	-
I am able to apply different levels of thinking according to the topics taught.	-	5	4	-
I know how to evaluate HOTS elements in my students' answers.	1	1	7	-
I know the theories or models related to HOTS.	-	2	7	-
I have attended courses on HOTS related to the courses I teach.	-	-	2	7
I have various collections of reference materials related to HOTS.	-	1	3	5
I apply various methods of scoring HOTS through group works, individual tasks and hands-on activities.	-	2	3	4
I love to explore diverse methods on implementing HOTS.	2	4	1	2
I use my free time to explore various resources on HOTS.	2	1	2	4
There is a lack of opportunity for HOTS in present classroom structure.	4	2	3	-
It is important to integrate HOTS into daily classroom structure.	6	3	-	-
Modelling HOTS was provided in my teacher training.	-	2	3	4
I have had prior training in how to implement HOTS.	-	3	3	3

According to the analysis conducted by Wilson and Narasuma's (2020), a score interval of 1 means strongly disagree while 4 means strongly agree. The general mean score was 2, which means that participants' responses regarding their knowledge and strategies of HOTS were in the range of disagreement. The items that gained a higher score of 4 were the ones regarding

teachers’ awareness of the importance of HOTS. It can be inferred that teachers are aware of the importance of implementing HOTS in the classroom. However, the participants do not perform activities to foster HOTS, which may be due to their lack of knowledge about HOTS.

Teachers’ knowledge of HOTS

Further analysis provided more detailed answers from the sub-dimensions of the questionnaire. The first sub-dimension was related to teachers’ knowledge of HOTS. The general mean score for this section was 2.77. This result indicates disagreement regarding teachers’ knowledge, which indicates that a) teachers did not have any or enough training on HOTS, b) teachers acknowledge the importance of HOTS, however, they do not put it into practice, and c) they do not know how to implement HOTS, because of the reasons presented above.

	MEAN	ST. DEV.
I understand what HOTS are	3	0.8
I am familiar with Bloom’s taxonomy	3	0.8
I am interested in implementing HOTS through my lesson.	3	0.5
I emphasize HOTS as a key element to writing my lesson planning	3	0.7
It is important to integrate HOTS into the lessons	3	0.5
I know how to integrate HOTS in learning activities in my lessons.	2	0.5
I understand that integrating HOTS in my lessons fosters its learning objectives.	3	0.5
I believe that integrating HOTS in my lessons help to develop students’ creativity, critical evaluation and problem-solving skill.	3	0.5
I believe that the integration of HOTS element in the classroom will help students to learn effectively.	3	0.5
It will not make any difference toward students’ learning when HOTS items are integrated in my lessons.	2	0.5
I am interested in attending courses and workshops related to HOTS.	3	1.1
My aim is to produce HOTS modules related to my subject.	3	0.5

Table 2 **Teacher’s knowledge of HOTS**

Qualitative data seems to support data emanating from the questionnaire as it indicates that while some of the participants have clear what HOTS are, most of them appear not to have a clear understanding of them. This poor understanding was made evident in the definitions provided by the participants since they were quite limited. On the one hand, a few participants mentioned that HOTS are skills developed through the learning process, they require the students to analyze, observe, practice and such skills need to be developed at school. Regarding this point, participant 10 described them as *“They are thinking skills which are cognitively demanding, and which need to be trained at school in order to be developed...”*

On the other hand, most of the teachers informed they are not sure what HOTS refer to, but they do believe HOTS have to do with difficult tasks. They agreed that HOTS require more effort at the time of doing an activity. Participant 4 provided the following information: *“...mmmm, thinking skills performed in a more difficult level.”*; while participant 8 described them as *“The ability to understand that certain kinds of learning require more effort than others.”*

Additionally, only one participant confirmed being familiar with Bloom’s taxonomy, which means they did not to have instruction on Bloom’s taxonomy at college nor have they done research about it by themselves. One teacher mentioned that she thinks she had some training, but she does not remember. The following excerpt, from participant three, succinctly puts the point forward *“Not really. But I’ve heard little about it as the priority in problem solving, I guess.”*

Teachers’ perceptions regarding prior training

The second part of the questionnaire focused on teachers’ perceptions regarding prior training. The mean score for this section was 1.92. The result displays the participants’ experiences concerning HOTS’ education. It can be observed that participants were not taught about HOTS during their teacher training. They emphasize the lack of HOTS’ instruction in classrooms as well as the necessity of incorporating HOTS in current teaching programs. Consequently, and considering these participants’ experiences, HOTS teaching should be incorporated into English teacher education programs.

	MEAN	ST. DEV.
There is a lack of opportunity for HOTS in present classroom structure	3	0.9
It is important to integrate HOTS into daily classroom structure	4	0.5
Modelling HOTS was provided in my teacher training	1	0.8
I have had prior training in how to implement HOTS	2	0.9

Table 3 **Teachers’ perceptions regarding prior training**

Similar findings emerged out of the qualitative data since only a few participants believe their teacher training courses were linked to HOTS. According to the interviewees, research and writing courses are two of the most common courses associated with HOTS. One participant said that he developed HOTS while studying law and philosophy, but not while studying languages. Another participant said that she learned about HOTS at work, which seems to indicate that HOTS instruction is still needed in teacher education programmes.

When asked about activities that they used to develop their own HOTS, the participants had mixed responses; many of them mentioned mind maps, organizers, reading and writing activities, and work experience. Two participants provided more detailed answers. Participant 11 mentioned that she developed HOTS through high-level questions tasks. Teacher 10 said that both of her degrees, as a psychologist and as an English teacher, had aided her: *“My work as a psychologist, interviewing, reporting, preparing anamnesis and case studies, self-introspection. Academic writing, reporting research, designing projects. Learning different languages, when I needed to analyse and compare the similarities and differences in grammar or meaning of words. When solving everyday life problems, identifying the causes and generating solutions”.*

Teachers’ implementation strategies

	MEAN	ST. DEV.
I consider that all students are capable of developing HOTS.	3	0.7
I know how to prepare questions to foster HOTS	2	0.5
I am able to apply different levels of thinking according to the topics taught.	2	0.5

I know how to evaluate HOTS elements in my students' answers.	2	0.7
I know the theories or models related to HOTS.	2	0.4
I have attended courses on HOTS related to the courses I teach.	1	0.4
I have various collections of reference materials related to HOTS.	1	0.7
I apply various methods of scoring HOTS through group works, individual tasks and hands-on activities.	1	0.8
I love to explore diverse methods on implementing HOTS.	2	1.1
I use my free time to explore various resources on HOTS.	2	1.3

Table 4. **Teachers' implementation strategies**

The third section of the questionnaire aimed to analyze how teachers integrate HOTS into their lessons. The general mean score in this section was 1.58, this result was even lower than the previous sections. This proves that even though there are teachers that declare having some knowledge about HOTS, they do not know how to teach HOTS. Another important aspect has to do with preparation, the items with the lower score are the ones related to training. As previously mentioned, the participants did not have instruction in the area. Additionally, they do not attend courses on HOTS nor do they look for materials or methods related to them.

Qualitative data provided similar findings. Most interviewees do not have a precise concept for HOTS, which means they do not know which kind of activities focus on the development of HOTS. However, they believe they create and implement some activities and exercises to help grow HOTS in students, according to the overall findings.

When asked how they developed HOTS in the classroom and what types of activities they used, the majority of participants said they did not know, while a few others mentioned mind maps, organizers, and writing activities. Questioning activities focused on readings, research, conversations, problem-solving, and creating something different based on what students learnt are among the most complex activities mentioned.

Participants were also asked how they knew when students used higher order thinking as well as how they decided when to teach HOTS. Most teachers mentioned that students use HOTS when they are capable of solving real-life problems as well as when describing various circumstances in their own words. This is illustrated in the following extracts. Participant one mentioned that *"It is reflected in their problem solving..."*, meanwhile participant ten shared that *"When I can tell by their written or oral performance that they have been actively constructing new knowledge..."*

Regarding when to teach to foster HOTS, most participants mentioned that it depended on the subject. Participants do it if there is a new topic or whether the topic can be adapted to teach HOTS. It also depends on students' needs, according to one participant. Others said they do it every day and have done so since the first day of class. This diversity of comments could be derived from teachers' lack of expertise on the subject.

Some of the questions were designed to determine whether it was acceptable to teach HOTS and whether participants felt there was a topic or area that was more important to foster HOTS. To this, most participants seem to agree that most subjects can be adapted while for others, it depends on the students' level. Participant ten said LOTS and HOTS activities interact together: *"...However, I do not believe there are activities which are 100% low order thinking skills. These processes involving low- and high-level thinking skills take place at the same time."*

When asked if they were willing to incorporate HOTS into their teaching, and if they felt prepared to teach them, most participants agreed that they need training on HOTS. They mentioned that after being interviewed they would like to learn about HOTS, and how to implement activities to foster students' engagement, as teacher three stated: *"I would like to know more about HOTS. It sounds like an interesting technique proved to be applied in teaching English"*.

CONCLUSIONS

EFL teachers need 21st century skills and competencies, such as communication skills, teamwork and HOTS. To become a "future teacher" who can deal with various facets of challenges in complex environments. The importance of developing these skills and competencies is not only emphasized by university professors or administrators. These requirements may also come from pre-service EFL teachers as subjects they will face in the twenty-first century.

The findings of the study indicate that EFL teachers are aware of the importance of HOTS and learning that emphasizes the aspects of HOTS in order to face the challenges of the twenty-first century; nonetheless, they seem to not have a broad notion of HOTS, with the majority stating that they lack knowledge and training. Furthermore, they have not been curious enough to carry out research about how to implement HOTS into their teaching. Regarding HOTS implementation, they reported some activities they believe would help promote HOTS; however, these indicated their uncertainty about the concepts and techniques. Nonetheless, the participants showed eagerness to learn about HOTS and their implementation in their lessons to agree that some preparation is needed. Consequently, it would be convenient to establish a specific training program for EFL to acquire HOTS.

The findings open a window of opportunities to broaden the scope of this study. It would be interesting to find out whether HOTS are part of the educational agenda in teacher education programs or in English training courses. This could be an interesting research path to follow regarding HOTS. Another project could focus on whether and how HOTS are implemented in basic education and/or higher education.

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