REHAM BAROUD

INVESTIGATING THE USE OF HIGHER- ORDER THNKING IN ENGLISH FOREIGN LANGUAGE CLASSES

Nicosia

September, 2022

NEAR EAST UNIVERSITY

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Supervisor

Assoc. Prof. Dr. Hanıfe Bensen Bostancı

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Approval

We certify that we have read the thesis submitted by **Reham Baroud** titled **"Investigating the Use of Higher-Order Thinking Skills in EFL Classes"** and that in our combined opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Educational Sciences.

Examining Committee	Name-Surname	Signature
Head of the Committee:	Asst. Prof. Dr. Nuket Gunduz	
Committee Member*:	Dr. Aida Arianne Jad	
Supervisor:	Assoc. Prof. Dr. Hanife Bensen Bostancı	

*This thesis defense was conducted virtually, which was recorded. Members of the jury verbally declared acceptance. All proceedings were accurately recorded.

Approved by the Head of the Department

21./12./20.22

Prof. Dr. Mustafa Kurt
Head of Department

Approved by the Institute of Graduate Studies

09/1/20..

Prof. Dr. Kemal Hüsnü Can Başer
Head of the Institute

Declaration

I hereby declare that all information, documents, analysis and results in this thesis have been collected and presented according to the academic rules and ethical guidelines of Institute of Graduate Studies, Near East University. I also declare that as required by these rules and conduct, I have fully cited and referenced information and data that are not original to this study.

Reham Baroud

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Reham Baroud

Abstract

Investigating the Use of Higher- Order Thinking in EFL Classes

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This study investigates the perceptions of teachers and students regarding Higher Order Thinking Skills (HOTS) in English Foreign Language (EFL) classes. The study was implemented at one of the top private institutions in Istanbul/Turkey. Nineteen teachers and 60 students from the Foreign Language department participated in this study. The aim of the study was to explore the implementation of HOTs inside EFL classes and to reveal to what extent both students and teachers use HOTs in EFL classes. To achieve these aims, a quantitative method was employed to investigate HOTS by utilizing questionnaires to find out the teachers' and students' perceptions of HOTS. The collected data was analyzed by using Statistical Packages for the Social Science (SPSS) version 24 to compare the differences between two statistically independent samples namely, students' and teachers' samples. The results indicated that teachers and students have positive and high perceptions regarding HOTS in classrooms. They also showed that teachers' demograpgic factors, such as age, gender, years of experience do not affect the peception of HOTS. On the other hand, the age and English language level of the students affected the perception of HOTS. Finally, it was found that there was no significant difference between the teachers' perception of HOTS and students' perception of HOTS.. It is recommended that teachers give extra time or additional classes to students who cannot maximize in applying HOTS.

Keywords: Higher Order Thinking Skills, English as a Foreign Language.

Öz

EFL Sınıflarında Üst Düzey Düşünmenin Kullanımının Araştırılması

Baroud, Reham

Yüksek Lisans, İngiliz Dili Eğitimi Bölümü

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Bu çalışma, İngilizce Yabancı Dil (EFL) sınıflarında Üst Düzey Düşünme Becerilerine (HOTS) ilişkin öğretmen ve öğrencilerin algılarını araştırmaktadır. Çalışma, İstanbul/Türkiye'deki en iyi özel kurumlardan birinde uygulandı. Bu çalışmaya Yabancı Diller bölümünden 19 öğretmen ve 60 öğrenci katılmıştır. Çalışmanın amacı, EFL sınıflarında HOT'ların uygulanmasını araştırmak ve hem öğrencilerin hem de öğretmenlerin EFL sınıflarında HOT'ları ne ölçüde kullandıklarını ortaya çıkarmaktı. Bu amaçlara ulaşmak için, öğretmenlerin ve öğrencilerin HOTS hakkındaki algılarını bulmak için anketler kullanarak HOTS'u araştırmak için nicel bir yöntem kullanıldı. Toplanan veriler istatistiksel olarak bağımsız iki örneklem, yani öğrenci ve öğretmen örneklemi arasındaki farkları karşılaştırmak için Statistical Packages for the Social Science (SPSS) versiyon 24 kullanılarak analiz edilmiştir. Sonuçlar, öğretmenlerin ve öğrencilerin sınıflarda HOTS ile ilgili olumlu ve yüksek algılara sahip olduğunu göstermiştir. Ayrıca öğretmenlerin yaş, cinsiyet, deneyim yılı gibi demografik faktörlerin HOTS algısını etkilemediğini de göstermişlerdir. Öte yandan öğrencilerin yaşı ve İngilizce dil düzeyleri HOTS algısını etkiledi. Son olarak, öğretmenlerin HOTS algısı ile öğrencilerin HOTS algısı arasında anlamlı bir fark olmadığı bulunmuştur. HOTS uygulamasında maksimum seviyeye çıkamayan öğrencilere öğretmenlerin fazladan zaman veya ek ders vermeleri önerilir.

Anahtar Kelimeler: Üst Düzey Düşünme Becerileri, Yabancı Dil Olarak İngilizce.

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List of Abbreviations

HOTS:	Higher Order Thinking Skills
LOTS:	Lower Order Thinking Skills
EFL:	English Foreign Language
CT:	Critical Thinking
ELT:	English Language Teaching
RBT:	Revised Bloom Taxonomy
OBT:	Original Bloom Taxonomy
ICT:	Information and Computer Technology
SLL:	Second Language Learning
L2 :	Second Language
SAH:	Contrastive Analysis Hypothesis
CLT:	Communicative Language Teaching
BB:	Baby Boomers
M:	Mean
SD:	Standard Deviation

CHAPTER I
Introduction

This chapter covers an introduction regarding the importance of implementing Higher Order Thinking Skills (HOTS) in English Foreign Language (EFL) classes. It sets out the problem statement, the purpose of the study and its significance as well as the research questions that guided the study followed by the limitations of the study.

Background of the Study

In the light of an increasingly fast-paced change in society and the development of learning theories, researchers are trying to find out the best techniques for diverse types of learning. This development of the 21st century pushes everyone to acquire skills in facing the era of openness of information. Thus, the utilization of technology has become a dire need for educators to be more creative to improve HOTS for students (Yusuf & Widyaningsih, 2019). In their study, Gozali, et al. (2021) asserted that people need to acquire skills that are easier than creativity and critical thinking. In the past, teachers used traditional methods in which they played a crucial role in the process of learning without paying attention to students'
individual differences and their needs. In this regard, there is a need to make changes in the educational systems. Previous studies claimed that the main theories to learning (behaviorism, cognitivism, and constructivism) contribute to using HOTS learning activities.

Realizing the urgency of the 21st century skills, this study is mainly concerned with one of the most crucial policies in education, which is the implementation of HOTS. The students should equip themselves with them in the 21st century to help them to apply these skills in their daily life to compete in global competition (Tyas, et al., 2019). According to them, 21st skills include critical thinking, communication, collaboration, and creativity. Consequently, the target of the innovative approach is to create students who can perform in the classroom as well as in their everyday life.

Teaching in EFL classes forces the teachers to bring activities that can help in fostering thinking skills among students, especially HOTS. The main purpose for

fostering higher order thinking skills is to produce critical students who can compete at the international community and to help them to be more creative in shaping the future of their local society.

Benjamin Bloom was the first one who discussed the idea of human thinking skills. Then, Anderson and Krathwohl (2001) revised it. It includes six levels starting from remembering, understanding, applying, analyzing, evaluation and creating (Andreson& Karthwohl,2001; Tyas, et al., 2019). The first three levels refer to lower thinking of learning (LOTS), while analysis, synthesis and evaluation refer to HOTS. HOTS require the learners to pass through lower thinking skills before going to HOTs. It means that the learners should remember, understand, and apply before reaching the next cognition which is HOTS. Thus, it means that thinking is not a haphazard or sudden process, but it is an order sequence process. HOTS give the learners the ability and potential to evaluate, analyze and create. In higher order thinking classes, students do not only memorize the information, but they also think creatively and react actively. Thus, teachers use Bloom's Taxonomy widely as a framework for teaching HOTS (Yoke, et al., 2015). In line with this study, Mishra and Kotecha (2016, as cited in Tyas, et al., 2019) claim that Bloom revised taxonomy as reference point to HOTS. Despite this, the number of studies about how to integrate HOTS classes is scant (Malini & Sarjit, 2014, as cited in Yoke, et al., 2015).

Implementing the higher order thinking skills is a necessary idea for English teachers inside their English Foreign Language classrooms since HOTS have gained the acknowledge decades ago. It is essential for the educational process. Therefore, countries become aware of the importance of HOTS, and they incorporate them in their national curricula (Assaly & Smadi, 2015). However, the problem is how they can integrate them in the curriculum (Bedir, 2013). This means that educators should be not only aware of HOTS, but also should train about what HOTS are and how they can integrate them in their classrooms. It is also urgent for EFL students to use them in situations where they use their thinking skills. Musyid and Kurniawti (2019) declared that students can use their thinking skills to analyze and choose correct information from the internet and they can discover innovative ideas in writing or drawing their conclusion about any social event at school. Thus, there is a desperate need to equip

students with HOTS to survive the industrial revolution in countries like Indonesia (Gozali, et al., 2021). On the other side, Singh and Marappan (2020) asserted that teachers play a crucial role in teaching students how to use HOTS and they should have strong beliefs about HOTS. Therefore, researchers investigated the benefits of incorporating HOTS in teaching. One of them is improving student's academic performance. Many studies found out that the students who receive their education in HOTS are better in terms of achievement progress and solving problems. Boosting motivation among students is another advantage for using HOTS in EFL classes. Purwaningsih, et al. (2021) stated that abstract instruction will not meet the students' motivation. Because of the importance of these skills, implementing HOTS should not be a problem for all teachers from all three generations, which are Baby Boomers (born between 1943 -1960), generation X (born between 1961-1980), and generation Y (born between 1981-2000) (Musyid & Kurniawti, 2019). Furthermore, Syafryadin, et al. (2022) declared that HOTS are important in terms of enhancing students' ability in all skills. Policy makers, educators, researchers, and the public emphasized the importance of HOTS (Abosalem, 2016; Elfeky ,2019; Lu et al in press, Lu, et al., 2021). Various recent studies have found that HOTS help the students to think creatively and critically (Singh & Marappan, 2020). Researchers argued that HOTS comprise the vital skills that the new generation need to equip themselves with (Ananiadou & Claro, 2009; Collins, 2014; Lu, et al., 2021). Because of their significance, countries like Indonesia integrated HOTS in the last national curriculum (Tyas, et al., 2019).

Although implementing such an idea has benefits, it has obstacles that are faced by teachers. Studies find it difficult to implement HOTS in classes because of the lack of either teachers' lack of knowledge of HOTS or students' lack of knowledge in generating ideas or both. That is why it is important to train teachers and students how to incorporate and use HOTS. It is worth mentioning that there are more studies that

explored the HOTS from the students' point of view than those which discussed this topic from teachers' perspectives.

Context of the Study

Education is one of the most basic human rights in Turkey in accordance to its legislation and international commitments (Aydin, 2012). The Turkish Education System falls under two categories, namely formal education and non-formal education. Formal education includes pre-school education, primary education, secondary education and higher education institutions. Non-formal education encompasses vocational training and academic education to citizens who never received formal education (Melekoglu, et al., 2009). All the educational activities in Turkey are under the control of Ministry of National Education and Higher Education Council (Melekoglu, et al., 2009). The Ministry of National Education handles the establishment of universities, selection of faculties, and founding of institutes. On the other hand, the establishment of two-year vocational schools and the creation of departments and divisions within the university are under the jurisdiction of the Higher Education Council (Aydin, 2012). According to Baş (2002), the Turkish higher education has changed profoundly over the last decade. These changes can be clearly seen in larger student population, new teaching methods, larger and more competitive arenas of operation, and continuing education programs. As a result of these changes, many higher education institutions are springing up. In the past two decades, 24 new private universities have been founded, and they now comprise the unified higher education system in Turkey, along with 53 state universities (Guruz, 2006). Later, Aydin (2012) stated that higher education in Turkey is provided by 103 state universities, 54 private universities, and 5 higher institutes of learning. Like other countries, thinking skills were listed and the content was developed accordingly in the curriculum of 2005 (Baysal et al., 2010). The aim of revising the curriculum is to equip the Turkish students with skills such as questioning, interpreting, reasoning, critical and analytical thinking to enable them to express themselves. According to MoNe (2018), the need to utilize the questions

that activate HOTS, such as questioning, and reasoning are underlined in the measurement and evaluation dimension (Acar Erdol, 2020).

Problem of the Study

In recent years, much effort has been spent to align the Turkish education system with more modern-day requirements. That is, thinking skills have been added to the goals of education and these goals have been readjusted (Baysal et al., 2010). The teaching and learning of HOTS generally aim to develop students' ability to understand, analyze, and synthesize information. This cannot be achieved without proper planning and understanding of basic concepts among teachers and students (Ballakrishnan & Mohamad 2020). The teacher has an important role in this process. Teaching profession does not only require a good theoretical university education, but also teachers' perception of their own efficacy in meeting these requirements (Baysal et al., 2010). However, the biggest obstacle in integrating HOTS is related to the teachers' knowledge and perception towards HOTS (Tyas et al., 2020).

In general, the related literature review revealed that teachers' perceptions are still at their infancy. The previous studies focused more on students' responses after integrating HOTS in their process of learning (Shafeei, et al., 2017). Therefore, the problem of the study aimed at investigating the perceptions of both English teachers and students in implementing HOTS.

Aim of the Study

This study was set out to explore using HOTs inside EFL classes and know to what extent both students and teachers use HOTs in EFL classes. Furthermore, it explored the results of the implementation of HOTS at one of the top private institutions in Istanbul. In addition, it aimed to find out if the demographic information of teachers, including age, gender, and years of experience affect their perception of HOTS and. It

also investigated the effect of the demographic information of students, including age, gender, and English language level on their perceptions of HOTS.

To achieve the purpose of the study, four main research questions are posed**:**

1-What are English as a Foreign Language teachers' and students 'perceptions towards infusing HOTs in classrooms?
2- Do age, gender, years of experience affect the teachers' perceptions of HOTS?
3- Do age, gender, English language level affect the students' perceptions of HOTS?
4- Is there any statistically significant difference and/or similarity between the perceptions of teachers and students with regards to HOTS?

Significance of the Study

The current study derived its importance from the importance of the topic that it discussed. This study is expected to be beneficial for the teachers, students, and the private institutions in Turkey. As a result of this study, teachers will acquire more knowledge about HOTS and their implementation in their classrooms. Besides that, this study drew attention to important issues, which are improving teachers' and students' HOTS and pedagogical practices used by teachers to implement HOTS in their classrooms. For the students, it could help them realize the importance of HOTS so that they are ready to prepare themselves in global competition in 21st century era. For the institution, it would help to understand better the students' and teachers' abilities so that the institution can provide learning assistance and HOTS supporting facilities in teaching English.

Limitation of the Study

Like other studies, this study has some limitations. First, the findings of the study cannot be generalized due to the change of the number of participants and the setting. Only 60 students and 19 teachers from the Foreign Language Department at one of the top private institutions in Istanbul participated in the study. This means that if the study was conducted on a higher number, it could have revealed different findings. In addition,

the questionnaire was the only instrument that was used to achieve the goal of the study. To obtain more comprehensive information, further studies may need integrating some qualitative approaches with quantitative approaches.

Definition of Key Terms

Higher-order thinking skills (HOTS): The skills that go beyond memorizing facts and knowledge. In Bloom's taxonomy (1956), analysis, evaluation, and synthesis are integral parts of HOTS. There are types of learning that need more cognitive skills than others that emphasize the role of the students to be more creative and innovative.

In this chapter, the background of the study, problem of the study, the purpose of the study, the research questions which guided the study, the significance of the study, definition of key terms, and the limitation of the study were presented. In the next chapter, the relevant literature will be discussed.

CHAPTER II

Literature Review

Introduction

In the previous chapter, the background of the study, problem of the study, the purpose of the study, the research questions which guided the study, the significance of the study, definition of key terms, and the limitation of the study were discussed. This study is concerned with investigation whether teachers and students perceive the concept of Higher Order Thinking Skills (HOTS) in English Foreign Language (EFL) classrooms. Moreover, it investigates the obstacles that both teachers and students may face during implementing HOTS in their classrooms. Therefore, this chapter attempts to review the literature in this matter and provide a complete and deep overview over this topic. To achieve this aim, this section includes two sub-chapters: Theoretical framework and related research.

Theorotical Framework

In this section, all the theories related to the problems will be discussed. The theroies consist of critical thinking, Bloom Taxonomy, theories of language learning , methodologies of language learning, strategies of language learning, learning styles, and stratieges of language teaching.

Critical Thinking

In this part, two topices related to critical thinking will be handeled in : the differences between critical thiking and Higher Order Thinking Skills and thinking dimensions.

Critical Thinking and Higher Oder Thinking Skills

Studies use HOTs and Critical Thinking (CT) interchangeably. According to a study by Brookhart (2010, as cited in Tyas et al., 2019), HOTS go under three subcategories, namely transfer, critical thinking, and problem solving. HOTS as Transfer is a method where teacher plays a crucial role in conveying the information to the students whether he is physically present or not, especially in the light of E-learning.

According to Brookhart, transfer is one of the most important educational purposes. It requires the students to memorize, comprehend and apply what they have learned. HOTS as critical thinking is a method of thinking requires the students to apply what they have learned wisely and logically. While problem solving is theory that aids the students to recognize and solve their problems if they face any thinking difficulty. He stated that if the teachers plan for their lessons, they should try to put a 2solution or strategy for the problems they may encounter. This will help in matching the students' interests, leading to allowing the students to receive their learning efficiently and appropriately. Similarly, Asrafil et al. (2020) defined HOTS as "a skill such as critical thinking, creative thinking, innovative thinking, and solving problems." In conjunction to this study, Miterianifa et al. (2021) also considered that critical thinking is one of the groups of HOTS. According to them, HOTS go under four groups: problem solving, decision making, critical thinking and creative thinking. They emphasized the necessity of using CT skills in the 21st century. CT skills are a process that requires interpretation, analysis, evaluation, and conclusion. HOTS involve the analysis of thought process, evaluation, and creation to answer a problem.

While others claimed that there is a slight difference between the two terms. Critical thinking has no single definition, and scholars have defined critical thinking variously. Most of the definitions focused on the conceptualization of CT as a set of cognitive skills (Tiruneh et al., 2014). Lu, et al. (2021) defined critical thinking as the ability to analyze information objectively, think clearly and rationally, and make a reasoned judgment Similarly, Moon (2007) defined it as the person's ability to work with complicated ideas to prove a reasonable judgment. Psychologists consider critical thinking as a matter of proficiency in activities or tasks that acquire thinking. In line with these definitions, Facione (2011) defined CT skills as discipline processes that are intellectually active and skilled at conceptualization, applying to analyze, synthesizing, or information gathered from various sources, such as observation and communication as a guide for belief and action. According to the researchers, critical thinking is a process of observing, analyzing, reasoning, and evaluating.

Higher Order thinking, on the other hand, is thinking on a level that is higher than memorizing information and facts (Fakhomah &Utami, 2019). HOT is finding

something unique by using the mind widely. (Sulaiman, et al., 2017, as cited in Singh & Marappan, 2020). HOT skills are known as the expanded of mind where a person participates in analyzing or interpreting the given task or manipulating the information because s/he gather them easily from the daily life (Onosko & Newman, 1994, as cited in Sahfeei, et al., 2017).

Dimensions of Thinking Skills

Critical Thinking

It is the first dimension of thinking skills. Critical thinking is purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, inference, synthesis, and evaluation of the concepts. According to Critical thinker is able to make predictions and formulate hypothesis, to distinguish fact from opinion, determine bias reliability of evidence, to relate cause and effects, to have the willing to consider, to avoid reaching premature conclusions, to determine the real aim, to search for meaning, to revisit the alternative and data processing (Semerci, 2016, as cited in Dilekli, 2019).

Problem Solving

This dimension aims at reaching previously defied goal. It is required to break the problem into organized pieces by using special cases and working backwards. It begins with recognizing the problem and then continues finding and assessing potential solutions (Butterworth &Thwaites, 2016, as cited in Dilekli, 2019).

Creativity

It is the third dimension where thoughts are gathered to innovative ideas to find hidden patterns, to find connection between unrelated phenomena and to generate solutions. In other words, it is generating ideas for solving a problem. So, creative people have most of the qualifications of problem solvers (Dilekli, 2019).

Decision Making

It is the last dimension of thinking skills. This skill is closely related to problem solving, making it hard to distinguish between the two skills. Decision making is a process of evaluating pros and cons. It is worth mentioning that good decision makers have the ability to be creative and they can solve problems since they are aware of choices selected for getting an aim.

While Swartz and Parks also stated (1994) that there are five dimensions for thinking skills. They are critical thinking, problem solving, creativity, decision making, and classification and understanding. There are some cognitive skills under the classification and understanding dimension, including comparing and contrasting, classification, sequencing, uncovering assumptions under analyzing argument.

McGuinness et al. (2003) mentioned that there are five dimensions for thinking skills, namely looking for meaning, critical thinking, problem solving, creativity, and problem solving. Looking for meaning includes cognitive skills such as; sequences, ordering, ranking, comparing and contrasting, classifying, analyzing identifying parts and holes, finding patterns and relations. It is worth mentioning that all five dimensions are related to metacognitive skills which includes planning, monitoring, redirecting, and evaluation.

Bloom's Taxonomy

In this part, three topics will be discussed: definition of Bloom's Taxonomy, Revised Bloom Taxonomy and terminology, structural, emphasis changes in Bloom's Taxonomy.

Definition of Bloom's Taxonomy

It is a framework for classifying statements of what we expect to learn because of instruction. It was developed by Benjamin Bloom to categorize learning objectives. Later, it was called Original Bloom's Taxonomy (OBT) which is only concerned about one dimension. The cognitive dimension includes knowledge, comprehension, application, analysis, and evaluation. The taxonomy's levels go from concrete to abstract and simple to complex. In other words, the taxonomy is cumulative where each level

requires more complex thinking, compared with the previous level. Later, Due to the need for changing the learning objectives, OBT was updated in 2001 by Andreson and Krathwohl (Acar Erdol, 2020).

Revised Bloom's Taxonomy

Revised Bloom's Taxonomy was developed within a five-year period with a team established in 199 under the leadership of Bloom's student Lorin W. Andreson (as cited in Arı, 2011). The taxonomy includes two domains: knowledge and cognitive. Knowledge domain consists of facts, procedures, and metacognition. On the other hand, cognitive domain includes the following dimensions: remembering, understanding, applying, analyzing, evaluating, and creating where the levels are categorized hierarchically from lower-order (remembering) to higher-order (creating) skills. Remembering means recognizing facts, understanding is the process where learners start to give meaning for certain learning input. Applying refers to the ability to follow procedures in a certain situation, analyzing refers to separating knowledge into pieces and finding out the link between specific pieces, evaluating refers to making judgment for pre-determined goal, and creating aims to produce a new product by combing various pieces of information (Brookhart, 2010).

Changes in Revised Bloom's Taxonomy

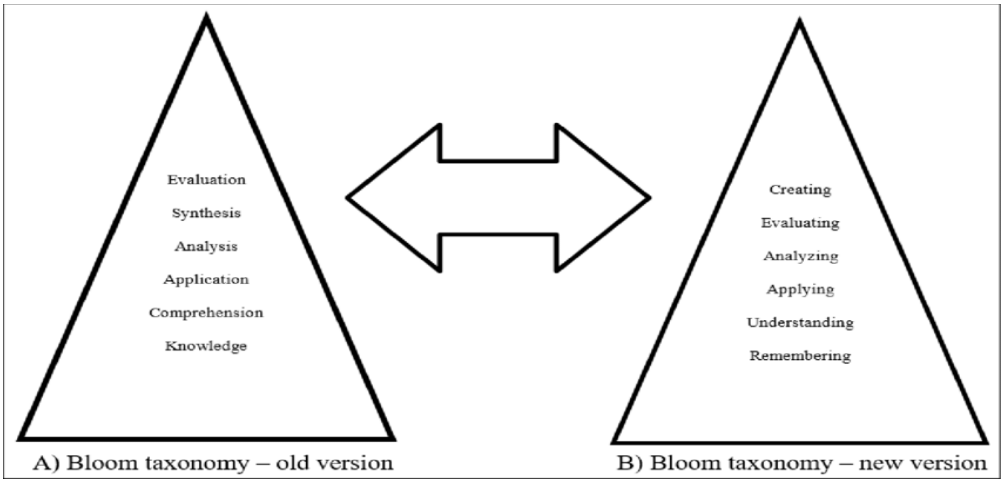
Forehand (2005) summarized the changes in Bloom's Taxonomy. The changes occur in three broad dimensions: terminology, structure, and emphasis.

Terminology Changes

In this dimension, changes are the most evident differences, but they can create the most ambiguity. These changes embody in three main categories. First, the categories of Bloom's Taxonomy were moved from noun to verb forms. Moreover, knowledge, which is the lowest level of the Bloom's Taxonomy, was renamed and became remembering. Finally, comprehension and synthesis changed into understanding and creating (see Figure 1).

Figure 1.

Terminology Changes in Bloom's Taxonomy



Dawenan (2001, as cited in Alderson and Krathwohl, 2020) mentioned that there are six categories of cognitive processes and there is an accompanying set of verbs that correspond to each taxon. They are remembering (C1), understanding (C2), applying (C3), analyzing(C4), evaluating (C5), and creating (C6). Remembering includes listing, identifying, describing, retrieving, recognizing, finding, naming, and locating. Understanding includes exemplifying, paraphrasing, explaining, interpreting, summarizing, comparing, inferring, classifying. Applying includes executing, implementing, using, carrying out. Analyzing includes outlining, integrating, comparing, structuring, organizing, finding, deconstruction, attributing,. The last category, evaluating, includes monitoring, judging, checking hypothesis, detecting, experimenting, testing, critiquing (Bloom's Digital Taxonomy, 2012).

Structural Changes

Unlike the one-dimensional Original Bloom's Taxonomy, RBT has two dimensions. The first one is the knowledge which is related to the knowledge to be learned while the cognitive knowledge dimension identifies the process used to learn. The knowledge dimension contains four levels, namely factual knowledge, conceptual knowledge, procedural knowledge, and meta-cognitive knowledge. While the other

dimension is cognitive knowledge which consists of six levels, namely remember, understand, apply, analyze, evaluate, and create.

Changes in Emphasis

It is the last category of the changes in Bloom's Taxonomy. Emphasis uses Bloom's Taxonomy as a genuine tool for planning the curriculum, delivering instructions, and assessing them. It is worth mentioning that Bloom himself claimed that countless groups are using RBT and they are never considered as an audience for the OBT. The aim of RBT is having a much boarder audience.

Theories of Language Learning

This section has two subsections. The first one is about the development of theories of language learning. While the second one discusses some examples of theories of language learning, including behaviorism, cognitivism, constructivism, and sociocultural learning theory.

Development of Theories of Language Learning

Theories of second language learning (SLL) have gained considerable amount of attention in the field of applied linguistics (Xiangui, 2005). Xiangui stated that there is no universal agreement on how learning occurs since the principles of learning have changed rapidly throughout the 20th century. Alduais (2012) stated that there are numerous theories for language learning. He added that some theorists argued that learning should occur in a way that boosts human behavior and speaks to his/her external abilities (Alduais, 2012). Behaviorism was dominated in the middle of the 20th century and was led by the psychologist, Skinner. He assumed that learning is seen as changes in the observable behavior of a learner.

However, others would oppose his ideas and claim that language acquisition should speak to the human internal abilities and pay attention to human's cognitive abilities. (Alduais, 2012). Behaviorism was an expansion for the ideas of cognitivism and was led by Piaget and Vygotsky in the 1970s. Cognitive psychology maintains that

learning also requires a good memory and motivation, which as considered as non-observable constructs.

After that, other theorists would assume that something is needed to shift the learners from being dependent into independent learners. They believed that something is needed to speak to their high abilities (Alduais, 2012). Alduais (2012) stated that this theory has evolved as a response to cognitivism.

Later on, others would claim that learning in social contexts is more efficient than autonomous learning (Alduais, 2012). That's why social constructivism has challenged the constructivism theory. Sociocultural theory maintained that learning cannot be separated from social context.

Types of Learning Theories

Behaviorism

This theory viewed learning as a process in which a certain stimulus is needed to acquire a possible behavior. Skinner (1957) stated that the chance of learning the behavior is promoted and reinforced through accurate responses. According to behaviorist theory, learning involves habit formation through repetition, reinforcement, imitation and practice (Xiangui,2005). Alduais (2012) stated that behaviorists stressed on observation where learners' behaviors are observed and then behaviorists can decide what do they need to learn. Skinner and his followers do not focus on mental processes or cognitive abilities (Lightbown & Spada, 2006, as cited in Alduais, 2012). It is worth mentioning that this theory provided the basis for Audiolingual Method. To teach the language, extensive drilling and repetition exercises were used. According to Xiangui (2005), behaviorism focused only on the formation of second language (L2) and ignored mental activities. It emphasized on the role of environment in learning. In behaviorism, learners are seen as passive contributors to their environment and the instruction focuses on the learner's behavior. To put it differently, teachers do everything while learners imitate the models they have been given (Alduais, 2012). He added that the process is cumulative where teachers observe their students and learners observe their surroundings, including the people. Behaviorism is usually connected to Contrastive Analysis Hypothesis (CAH). According to behaviorism, learning is considered as a set

of habits (Xiangui, 2005). He added that behaviorist theory focused on the formation of habits through repetition, imitation, memorization, and practice, leading to the applying of audio-visual techniques.

However**,** the audio-lingual method has been criticized widely for its overt mechanic pattern drills and it is considered as theoretically unjustified although repetition and memorization are needed for some features of language, such as pronunciation and collocations (Xiangui, 2005).

Cognitivism

Unsatisfied with the behaviorism, a new theory was introduced in 1970s (Alduais, 2012). Cognitivism suggested that learning is a creative process that has common features without paying attention to the learner's language background. Cognitive psychology focused on mind, memory, attitudes, motivation and other internal processes, which are considered as unobservable constructs (Xiangui, 2005). Cognitivists, according to Alduais (2012), attempted some speculations and predictions. In this theory, the learners are viewed as active participants in the learning process and their errors are acceptable and they are seen as evidence of learning. It is worth mentioning that cognitivists are mainly interested in the learner as an individual (Xiangui, 2005). It viewed Second Language Learning (SLL) as the acquisition of a complex cognitive skill. One of the examples of this theory is applying Communicative Language Teaching which introduced the term of fluency. Fluency is concerned with the communication of meaning rather than accurate grammar language. This theory can be also linked to Task-Based Language Learning.

Constructivism

It is concerned about cognition, which is considered as a result of mental construction (Bada & Olusegun, 2015). To put it differently, students learn by fitting new information together with what they already know. It had a considerable influence on education in general and theories of second language in particular. It depended on the work of Jean Piaget and John Dewey on child development. Besides, it depended on the work of Lev Vygotsky. According to constructivist approach, learning is viewed as

something that results from the learner's internal construction of meaning (Williams & Burden, 1997). This means that learning is a dynamic process rather than a passive process. It stressed that learners are actively involved in their own learning process. In other words, constructivism is a student-centered theory where learners make questions, explore different interpretations of meaning, and the teacher acts as a facilitator or guide. This means the construction of learning can be achieved by learners as much independently as it could be. This is in line with Flowerdew (2015) when he viewed constructivism as an approach to learning which depicts acquisition as a dynamic process, with learners in the driving seat. Collentine (2000 as cited in Flowerdew, 2015) also presumed that learners can build knowledge actively, largely through inductive processes by using constructivism. Constructivists, according to Alduais (2012), interpret learning in terms of involving learners in learning situations.

However, constructivism may not suit all learners. Certain types of learners may resist this kind of learning. Kirschner et al. (2006) pointed out some obstacles for this theory. One of
them is that many cognitive demands were places on the learners, arguing for this discovery-based experiential approach to adopt a new approach, which is scaffolding approach linked to another sociocultural theory.

Sociocultural Learning Theory (Social constructivism)

Social -cultural theories placed the individual within the larger communal context as a response to cognitive theories which focus on the leaner's internal cognitive processing of input (Xiangui, 2005). This theory was expanded by the ideas of both constructivism and interactional theory where language acquisition is seen as a connection between a learner and a more intuitive person. The term sociocultural means that learning occurs in a certain social setting, in which there is a harmony between teachers and students, texts and books, and organized activities and events. Scaffolding process has a crucial role in the sociocultural theory, which means interaction between two or more people as they perform a classroom activity and where one person (e.g., the teacher) is more knowledgeable than the other (e.g., the student) (Swain et al., 2010). Moreover, in this type of learning environment, the learners are seen as agents of their

own learning. Learners have the options and make choices on whether to reject or accept feedback offered (Flowerdew, 2015). According to Xiangui (2005), language is not just a private, but it is also a socially constructed phenomenon. In other words, language learning is not only a cognitive activity, but rather a social activity where the process is participating in a knowledge building community.

However, Weissburg (2008) has criticized sociocultural theory on several grounds in terms of L2 literacy. He questioned how the premise of inner speech can be developed in L2 writing activities. He also sees the transfer of learner's L2 knowledge gained through speech to their writing as a problematic.

Connectivism

This theory was prevalent in the United States during the first half of the twentieth century (Mayer, 2003, as cited in Schunk, 2012). It is considered as the most essential theory since it supports the use of aids (Alduais, 2012). According to him, there are at least five types of aids namely, visual aids, audio aids, audio-visual aids, action aids, and multimedia aids. For visual aids, various sources can be used such as realia, models games, pictures and drawings, posters, maps, cards, and graphs. For audio aids, tape recorder, reel tape recorder, radio, and phonographs can be used. For audio-visual aids video tapes, DVDs, TV, and video CDS can be used. Dramatization, role-playing, charade games, language teaching games party games, and rumor game twenty questions games can be used as sources for action aids. Multimedia aids can be done by combining all of the above-mentioned aids through using the computer. Based on this theory, learning occurs in terms of association. In other words, a specific word is connected to its basic meaning. Later on, the word will be connected to extra meanings in the advanced stages. The process extends to the association of words with phrases and phrases with sentences and so on. It is worth mentioning that all abstract linguistic items become harder to remember even with the use of all of aids.

Objectivism

This theory supports the idea that one learning-model fits all since it believes that everything related to learning is predictable (Kundi & Nawaz, 2010). In objectivism, the teachers provide the learners with the required stimuli besides the required behavioral responses with an effective reinforcement regime (Kundi & Nawaz, 2010). In other words, it gives the teachers complete control of materials so that they can manage the pace and direction of learning. Observable measures such as tests, assignments, and examination are used to assess learning (Ward et al., 2006, as cited in Kundi & Nawaz, 2010). Ausubel (1963, as cited in Lister & Leaney (2003) pointed out the duty of the objectivist teachers as the presentation of information and ideas effectively. The objectivist teacher selects, organizes, presents, and translates subject-matter content in a proper manner. Unlike constructivism, the structure is given for the students. That is, meaningful reception is not passive. In objectivism, the students notice how the teacher uses a technique to a problem and then they apply the command of that technique on another problem (Lister & Leaney, 2003). One of the advantages of objectivism is its efficiency. In fact, receiving wisdom is faster than constructing the same wisdom by the error and trial of constructivism (Ausubel, 1963, as cited in Lister & Leaney,2003).

Humanism

Humanistic learning theory mainly focused on personal development and full growth of each human's potential. It is not only concerned with the intellectual level, but it is also concerned with various levels including emotional, psychological, creative, social, physical and spiritual level. To put it differently, it connects students' lives, emotions, and experiences to enhance learning. That is, they learn more deeply when there is a comprehensive connection to what is to be learned (Johnson, 2014). Facilitating the growth of human beings who have the ability to nurture themselves, other humans, and their environments is the crucial aim of this theory (Johnson, 2014). In general, humanistic learning theorists focus more on how the learner's way of being in the world affects the integration of skills and knowledge and less on accumulation of knowledge and (Purswell, 2019). They avoid teacher-directed learning because they assume the most crucial development in learning cannot be transferred directly from

person to another. Instead, they believe that knowledge is a natural process occurring in a facilitative environment ("Humanistic Learning Theory in Counselor Education"). That is, humanistic educators shed the lights first on themselves and their potential to provide that environment (Purswell, 2019). Teachers in humanistic classrooms focus more on how to learn than what to learn and they are considered as the facilitators of learning and (Khatib, et al., 2013). Unlike traditional classes, teachers are the facilitators in this approach, and they are not the controllers (Khatib, et al., 2013). It is worth mentioning that language education and pedagogy moved away from the previous behaviorist and mentalistic approaches due to this new shift of focus (Khatib, et al., 2013). Despite all of the positive points of this approach, some teachers refused applying its principles in their classrooms. They claim that humanistic approach lessens their power to control the classroom since the role of the teacher is diminished. According to Stevick (1990, as cited in Khatib, et al., 2013), there are five requirements for humanistic language teaching. The first one is having a firm command of the language being taught. The second one is having proper training in language teaching methodology. The third one is having a proper understanding of the teacher's emotional intelligence. The fourth one is having a realistic understanding of learner's language needs. The last one is having an understanding of learner's cognitive and affective requirements.

Methodologies of Language Learning

This section has two subsections. The first one is about the various definitions of Methodologies. The second subsection discusses some mainstream methods and movement, including Grammar-Translation Method, Audio-Lingual Method, Direct Method, Communicative Approach.

The Definitions of Method and Methodologies

Larsen -Freeman defined a language teaching method as superordinate, 'comprising both principles and techniques' (Curtis, 2017). The principles, which represent the theoretical framework of the method, were based on five items of language teaching, namely the teacher, the learner, the teaching process, and the target language

and the culture. On the other hand , the techniques represent the behavioral explanation of the principles, such as classroom activities and procedures.

Rodgers (2001, as cited in Curtis, 2017) defined language teaching method as 'a systematic set of teaching practices based on a particular theory of language' (p.1). Rodgers also held a comparison between methods and approaches. Methods are fixed teaching systems with prescribed techniques and practices while approaches are language teaching philosophies that can be applied in various ways in the class (Rodgers, 2001). ("Topic 14 - Methods and techniques aimed at the acquisition of ...")

Mainstream Methods and Movements

Grammar -Translation Method

The idea of this method originally came from traditions grown out of grammar schools which were established to train young people in Latin and Greek (Mitchell & Vidal, 2001). This method, which is derived from Latin and Greek, relies highly on the teaching grammar and practicing translation as its crucial teaching and learning activities (Griffiths, 2004, as cited in Richards et al, 1992). Based on this strategy, the main focus tended to be reading and writing, with little attention paid to speaking and listening. ("Language-learning strategies: theory and perception - DeepDyve"). In other words, teaching vocabulary was in lists and accuracy was given the highest priority. It is worth mentioning that students depended on their native language to learn. This resulted in not having the ability to use language learning strategies to enhance the autonomous learning of the students. This emphasized Richards and Rodgers (2014) views. They listed seven characteristics of Grammar-Translation Method. The first one is that it views language learning as consisting little more memorizing rules to perceive and manipulate the morphology and syntax of the second language. The second one is reading and writing are the major focus. The third one is that vocabulary selection is depended solely on the reading texts and the words are taught through memorizing, using word lists and dictionary study. The fourth one is that it focuses on the sentences where much of the lesson is devoted to translating them into and out of the target language. The fifth one is that accuracy is emphasized, and students are expected to attain high standards in translation. The sixth one is that grammar is taught deductively

by presenting grammar rules which are then practiced through translation exercises. The last one is that the students' native language is the medium of instruction, and it is used to explain the new items. However, there are some challenges for this method, such as grammatical scheme of exercises may appeal to adult learners and definitely not the young learners, memorizing the grammar rules often does not assist students to use the language, speech is neglected and the advanced of reading and writing are stressed, and literal translation is not always helpful (Reddy, 2012).

Audio- Lingual Method

This method was a reaction against the limitations of the grammar- translation method. Unlike grammar – translation method, audio lingual method relied heavily on speaking and listening. According to this method, speaking and writing are the first key skills and should be learned before reading and writing. In this method, students depended heavily on drills and repetition, as behaviorists called for. According to behaviorism, language is a set of habits which can be learnt on stimulus, response, and reinforcement. Intarapanich (2013) asserted that the Audio-Lingual Method is based on behaviorist approach that language learning is the acquisition of a set of correct language habits. According to Richards et al. (1986), there is no or little recognition given to any conscious contribution that learners might make in the learning process. In fact, learners did not have the motivation for taking the lead in the learning process since they are afraid of making mistakes. Compared with grammar-translation strategy, individual language learning strategies are given little attention in audio-lingual method.

Direct Method

It is a method where target language is taught in classroom from the beginning since there is no translation (Intarapanich, 2013). To clarify the meaning of the vocabulary items, teachers use learning materials and visual aids (Intarapanich, 2013). Richards and Rodgers (2014) listed some characteristics of Direct Method. The first one is that only everyday vocabulary and sentences were stressed. The second one is that oral communication skills were built up in a carefully graded progression in small, intensive classes. The third one is that grammar is taught inductively. The fourth one is

that new teaching points were presented orally. The fifth one is that speaking and listening comprehension were taught. The sixth one is correct pronunciation and grammar were emphasized. Lacking a comprehensive methodological underpinning was one of the weakness points that led to the birth of the methods era. ("In Chapter 1 | PDF | Language Education | Translations"). Reddy (2012) also listed six limitations for this method. The first one is the excessive use of the target language failed to address many issues. The second one is that it became very difficult to associate expressions directly in the target language. The third one is that it gave excessive stress on the spoken form and neglected reading and writing. The fourth one is that it laid great stress on the teacher and increased her stress in as much as they had to supply the students with the language exercises. The fifth one is that it failed to strengthen the language habits of the students. The last difficulty that it became very difficult to find competent teachers (Reddy, 2012).

Silent Way

The Silent Way, was initiated by Gattegno (1972), means that the teacher still stays the firm controller of the class (Khatib et al., 2013) and he remains as silent as he can when the learners are engaged in learning. The teacher and he is not required to explain topics in a detailed way (Djumabaeva & Avazmatova, 2022). Gattegno says, "the teacher works with the student; the student works on the language" (as cited in Snow, 1986). It is defined by Snow (1986) as a method designed to give students the tools to develop independence and responsibility in language learning. The goal of this method is to facilitate active student learning (Richards, 2001). According to Gattegno (1972, as cited in Djumabaeva & Avazmatova (2022), it also encourages the students' autonomous learning. Minimal verbal intervention and correction are used by the teachers to enhance the role of the teacher. It also involves the use of accompanying physical objects and physical gestures (Richards, 2001). In this method, pronunciation is stressed from the beginning since the sounds are considered the basic building blocks of language learning. According to Djumabaeva and Avazmatova (2022), improving students' speaking skills and bank of vocabulary are considered as a priority. Afterwards, the other skills, such as reading, writing, listening, and grammar are taught together in an integrated way. It is worth mentioning that the presentation of language

material follows a traditional structural syllabus although the roles of teacher and the student are quite unlike more traditional approaches (Snow, 1986).

Suggestopedia

This method was established by Lozanov (1979) on the principle that people are capable of learning easier and faster if their minds are free of anxiety and other things (Khatib et al., 2013). It is defined by Snow (1986) as a method which utilizes dialogue, situations, and translation to present and practice language through using music, visual images, and relaxation exercises. In this method, the teacher should have the authority as teacher and the students' relations compared to parent and child relation (Djumabaeva & Avazmatova ,2022). Concert sessions which use the kinds of music thought to be able to facilitate elevated level of memory were the main focus of the suggestopedia method (Richards, 2001). It also asserts the insights of research findings about the importance of music that about 80 beats per minute usefully facilitates Alpha brain waves associated with the heightened memory and the fast assimilation of facts (Lehmann, 1988, as cited in Richards, 2002). Native language is used actively in the Suggestopedia since lexical items are learned with their pairs in the target language (Richards & Rodgers, 2010, as cited in Djumabaeva &Avazmatova ,2022). However, some practitioners criticized it as being a more method for teaching memorization techniques than an enterprise of language acquisition. Richards (2001) summarized 5 steps of a Suggestopedia lesson. They are relax, context, peripheral text, active concert, and passive concert. It is clear that Suggestopedia emphasizes the significance of activities preceding the concert session. To put it differently, the lesson starts with suitable methodologies to prepare the students to relax, to have fun, and to interact with the teacher and other students. The teacher- directed acquisition of a target language (Richards ,2001) and delivering advanced conversational proficiency quickly (Richards &Rodgers, as cited in Djumabaeva & Avazmatova ,2022) were the main goals of Suggestopedia.

Total Physical Response (TPR)

It is a language teaching approach which was developed by James Asher, an American psychologist. Its implementation is based on how the children acquire their

mother tongue (Mariyam & Musfiroh, 2019). Asher (2009, as cited in Mariyam & Musfiroh, 2019) defined TPR as an approach in language learning which is concerned with the utterances and action. Snow (1986) also defined it as a language teaching method bases on the value of the connection between speech and physical action for maximizing comprehension and on the benefit of physical activity for lessening stress in language learning. Commands, orders, or instructions given by the teachers are considered as the content of TPR. The students are expected to respond to these commands with the proper physical behavior. In other words, physical activities are used to learn the language. These motoric activities can reduce children's anxiety, which reduce affective filter which facilitates language learning (Mariyam & Musfiroh, 2019). In TPR, spoken discourse is combined with action. Students learn language through action-based activities (Djumabaeva &Avazmatova ,2022). In this method, the grammatical structure and vocabulary of the target language are learned by the instructor's skillful use of the imperative (Djumabaeva &Avazmatova ,2022). It starts with focusing first on listening comprehension, mimicking the primary stages of mother tongue acquisition, and then moving to speaking, reading, writing (Intarapanich, 2013).

Participatory Methods

It is a method to language teaching which is sometimes termed as interactive teaching method or learner centered teaching method (Kucharčíková & Tokarčíková, 2016). It stresses the subjectivity of learners and the self-construction of knowledge. That is, the learner shall be placed at the focus of all the decisions that are made about the curriculum and how it will be delivered. While the teacher should act as a motivator, a facilitator, and a promoter of learning during the class interactions (Omollo et al., 2017). Learning, therefore, shall be rooted in the conception of constructivism where the students interact with the environment through implementing well organized tasks, dialogue, and reflections on learners' conception (Omollo et al., 2017). Brainstorming, group discussions, questions and answers, and demonstration were found among the participatory methods to be frequently used. On the other hand, activities such as field trips, role plays, and outdoor activities were found to be rarely used (Shirima, 2013). Omollo et al. (2017) concluded that integrating participatory methods is essential to

optimize effective learning on the side of students. Ciobanu also (2018) listed some of the characteristics of modern participatory methods. The first one is that they are attractive. The second one is that they stimulate active involvement in the teaching task. The third one is that they ensure better implementation of knowledge. The fourth one is that they promote cooperative learning. The fifth one is that they stimulate creative potential (Ciobanu ,2018). However, there are challenges for participatory approach. They are large classes, heavy teaching loads and pressure posed by the exams (Omollo et al., 2017).

Communicative Approach

The main flow of methodologies focuses on communicative exchange, with the fading of audiolingualism, (Mitchell & Vidal, 2001). The name of this method developed from Counseling- learning, which is Curran's application of psychological counseling techniques to learning, which is called (Intarapanich, 2013). Although a communicative approach encourages the learners to take greater responsibility for their own learning, the focus of this approach is on how teachers teach, with little attention paid to how learners learn, as in previous approaches. It aims to teach how to communicate effectively integrating four major skills equally. It focuses on student's autonomy of learning with minimal intervention from the teacher (Djumabaeva &Avazmatova ,2022). The students use authentic materials in small groups on communicative activities (Intarapanich, 2013). Rodgers (2001) outlines five principles of Communicative Language Teaching (CLT). The first one is that learners learn the language through using communication. The second one is that meaningful communication should be the aim of the classroom activities. The third one is that fluency is a crucial dimension of commutation. The fourth one is that communication requires the integration of various language skills. The last one is that learning is an activity of creative construction and requires trial and error.

Strategies of Language Learning

This section discusses two topics. The first one is about different definitions of language learning strategies. The second one discusses four main taxonomies of learning

strategies, including Rubin's (1987), Oxford's (1990), O'Malley and Chamot's (1990), and stern's (1992) taxonomies of language learning strategies.

Definitions of Language Learning Strategies

Since the early 1970s, language learning strategies have received a considerable amount of significance. However, the identification of language learning strategies and their definition had little consensus in the literature (Macaro, 2006 as cited in Bialystok, 1983). Language learning strategies were defined differently by many scholars focusing on how learners use these strategies to deal with the information they receive and what type of strategy they use (Hardan, 2013). Brown (1980), who provided the modest definition of learning strategies, stated that learning strategies are processes that may contribute directly to learning. On the other hand, Chamot (1987, as cited in Hismanoglu, 2000) went further and defined them as not only processes, but they are also techniques, approaches, and actions that facilitate students' learning and recall of both linguistic and content areas of information.

There have been repeated attempts to situate learner strategies within theories of cognition. According to Wenden (1987 a), strategy is "a part of the general area of research on mental processes and structures that constitute the field of cognitive science" (p.6). Language learning strategies are seen as behaviors, steps, or techniques that language learners apply to facilitate learning. ("Journal on English as a Foreign Language Learning strategies applied by ...").

O'Malley and Chamot (1990) also defined strategies within the theories of cognition. Strategies include selected aspects of new information, and they are located in the brain to analyze, and monitor information during acquisition, and organize new information during the encoding, and evaluate the leaning when it is completed. (Hardan, 2013). While Mayer (1988) referred strategies as "behaviors of a learner that are intended to influence how the learner processes information". (p.11). According to Scarcella and Oxford, (1992), learning strategies are seen as certain actions, behaviors, steps or techniques to tackle a difficult language task. Strategies must be controllable since they are procedures that learners need to follow to achieve their goals. It is worth mentioning that strategy refers to conscious movement towards a goal.

According to Cohen (1998), if the strategy is habitual, it becomes a process that is no longer within the learner's consciousness. One of the benefits of learning strategies is that they can build learner autonomy. Many researchers suggest a comprehensive definition for learner autonomy. It is the willingness to carry out a language task without little or no help. Furthermore, it is flexible to the situation with transferability to other contexts and relevant action (Holec, 1981; Dickinson, 1987; Allwright, 1990; Little-wood, 1996). While Oxford (1990, as cited in Hardan (2013) defined learning strategies as "the learners' ability to take certain actions to make the process of learning faster, easier, more effective, more self-directed, more enjoyable, and more transferable to new situations'' (p.8). In other words, this definition includes three aspects of language learning strategies, namely cognitive, emotional, and social aspects. He added that learning strategies do not assist language learning, but also the language of other subjects as math and chemistry.

After that, Chamot and El-Dinary (2000) concluded that strategies are mental actions that include overt activities that assist learning. According to Hsiao and Oxford (2003), learning strategies are viewed as thoughts or behaviors that a learner engages in during learning that are intended to influence the learner's encoding process. To be more specific, learning strategies are operations employed by the learner to assist the acquisition, storage, and the use of information. While Dörnyei and Skehan (2003) claimed that a strategy cannot be either cognitive or emotional or behavioral. Phakiti (2003) viewed strategies as learners' stable long-term knowledge of their strategy use. According to Ghani (2003), strategies defined as certain procedures, behaviors, steps, or techniques that are used by students to improve their development in L2.

Dörnyei (2005) concluded that the incapability of researchers to recognize the difference between engaging in an ordinary learning activity and a strategic learning activity caused a problem that has led him to question the existence of learner strategies.

Taxonomy of Language Learning Strategies

Without any substantial changes**,** language learning strategies vary widely and they are classified into various categories (Hardan, 2013). In what follows, Rubin's (1987), Oxford's (1990), O'Malley and Chamot's (1990), and stern's (1992) taxonomies of language learning strategies will be discussed.

Rubin's (1987) Classification of Language Learning Strategies

Rubin, who pioneered much of the work in the field of strategies, distinguished between strategies that are directly involved with language learning and strategies that are indirectly involved with the process of language learning (Hismanoglu,2000). Rubin classified language learning strategies into six main direct categories, namely clarification, monitoring, memorizing, guessing, deductive reasoning, and practice. While she reported two indirect strategies, which are creating opportunities for practice and production tricks**.** Rubin (1987) stated that learning strategies are of two types: cognitive and metacognitive (Hardan, 2013) defined cognitive learning strategies as steps used in the learning process that requires direct analysis, transformation or synthesis of learning materials. Rubin identified six main cognitive strategies contributing directly to language learning: clarification, guessing, deductive reasoning, practice, memorizing, and monitoring. On the other hand, metacognitive strategies are the operations used to oversee and regulate language learning. She identified two main metacognitive strategies contributing indirectly to language learning: communication strategies and social strategies. Communication strategies are used by speakers when faced with some difficulty, while social strategies are those tasks learners involve in which give them the opportunities to be exposed to the target language (Hismanoglu,2000).

Oxford's (1990) Classification of Language Learning

While Oxford (1990) reported that being oriented towards the development of communicative competence was the target of language learning strategies (Hardan,2013). Oxford reported that there are three strategies go under the first type of learning strategies, which are memory, cognitive, and comprehension. Subsumed under indirect strategies are metacognitive, affective, and social categories. In Oxford's system, metacognitive strategies aid the learners to regulate their learning. Affective strategies are related to learners' emotional requirements such as confidence. Social strategies are operations increase the interaction with the target language (Hardan,2013).

O'Malley and Chamot's (1990) Classification of Language Learning Strategies

Another comparison was held between O'Malley/Chamot System and the Oxford System to compare two different major strategy classification systems. To start with O'Malley and Chamot's (1990) strategy system, which has gained substantial attention since its appearance. This system classifies the learning strategies under three main subcategories: cognitive, metacognitive, and socio-affective. According to Hardan (2013), cognitive means using a specific technique to a particular task, for example repeating, reasoning, analyzing. Metacognitive is related to the learning process, for example organizing, planning, and monitoring. Socio-affective involves oneself and others, for example co-operation with peers and seeking clarification. Although there are many differences between the two strategy systems, it is clear that it reveals a considerable degree of overlap between O'Malley and Chamot's (1990) and Oxford's (1990).

Firstly, the cognitive strategies of O'Malley and Chamot nearly correspond to a combination of Oxford's memory and cognitive strategies. However, Oxford's strategy of guessing, which was classified as a comprehension strategy, is a part of O'Malley and Chamot's cognitive category. Another difference is that Oxford intentionally separated memory strategies from the category of cognitive strategies since memory strategies have a precise function that makes them distinguished from various cognitive strategies. According to Ehrman (1996), cognitive strategies contribute to deep processing while memory strategies contribute to deep processing of language information. It is worth mentioning that memory strategies serve cognition; however, the actions included as memory strategies are mnemonic devices that help the learners to transfer the information to long-term memory for storage purposes. According to Rees-Miller (1993), cognitive strategies, such as seeking meaning, using deduction, inferencing, or monitoring, are defined so broadly as observable, specific, universal behaviors that could be taught to students.

Secondly, metacognitive strategies of O'Malley and Chamot generally match those of Oxford's (1990). The function of this strategy is planning, organizing, and evaluation one's own learning. O'Malley and Chamot gave special emphasis to metacognitive strategies, claiming that learners without metacognition are learners

without direction to plan their learning, monitor their progress, or review their accomplishments (Hardan, 2013).

Thirdly, socio-affective is another type of learning strategies. affective strategies are techniques whereby the learners have the ability to manage their feelings, emotions, and motivational states while social strategies are techniques involving learning with other people. It is worth mentioning that O'Malley and Chamot grouped the affective strategies and social strategies together while Oxford separated these two categories.

Stern's (1992) Classification of Language Learning Strategies

Stern (1992) classified learning strategies into five main categories, namely management and planning strategies, cognitive strategies, communicative strategies, interpersonal strategies, and affective strategies. Management and planning strategies are concerned with the learner's intention to guide his own learning. That is to say that learners must decide what commitment to make to language learning, set themselves reasonable goals, decide on suitable methodology, and evaluate their achievements. Cognitive strategies are operations used in learning that require direct analysis, transformation, or synthesis of learning materials. The cognitive strategies include clarification, guessing, deductive reasoning, practice, memorization, and monitoring. Communicative strategies are techniques used by learners to keep a conversation going, such as circumlocution, gesturing, paraphrasing, or asking for repetition. For interpersonal strategies, learners should monitor their own development and evaluate their performance as well as they should communicate and cooperate with native speakers. That last category is affective strategies where good learners employ different affective strategies. According to affective strategies, good learners are more or less conscious of the emotional problems they may encounter when they learn a foreign language such as frustration, strangeness or other negative feelings (Hismanoglu,2000).

Recently, there is a new shift from focusing on teachers and teaching to learners and learning. According to Ghani (2003, as cited in Hardan, 2013), the strategies can facilitate the internationalization, storage, retrieval, or the use of the new language. She studied the learners in terms of their use of strategies in more detail. She figures out that learners exist to vary considerably and differently in terms of overall frequency with

which they use strategies and the certain types of strategies they use. This means that strategies differ from one learner to another. Learners used to employ strategies which are helpful for them according to their learning styles (Hardan, 2013). Another study by Andrew (2006) agreed with Ghandi (2003) which stated that learners can use a broad range of strategies during language learning and use.

Learning Styles

This section is divided into two categories. The first one talks about the three aspects of learning styles, namely cognitive, affective, and physiological aspects. The second category discusses dimensions of learning styles. The components of the dimensions are active and reflective learners, sensitive and intuitive learners, visual and verbal learners, and sequential and global learners.

Aspects of Learning Styles

Earlier learning style was defined as a "consistent pattern of behavior but with a specific range of individual variability" (Cornett, 1983). Learning styles refers to the idea that different individuals learn information in various ways (Pashler et al., 2008). In recent years, the idea of learning styles has gained a great influence and it has a wide acceptance among educators, parents, and general public (Pashler et al., 2008). According to Cornett (1983), there are three aspects of learning styles.

Cognitive Aspect

The first aspect is the cognitive aspect which includes the procedures of how we decode, encode, process, store, retrieve information (Cornett, 1983). After that, James and Gardner (1995) stated that the cognitive aspect includes the storage and retrieval of information. This aspect can be connected to the hemispheric brain functioning with the process falling to either the right or left hemisphere. Cornett (1983) stated that the learners who do not have a good command of essential thinking skills need to be taught them by using Bloom's Taxonomy.

Affective Aspect

The second one is affective aspect which includes emotional and personality characteristics, such as motivation, attention, responsibility and sociability (Cornett, 1983). Although the components of affective style cannot be observed directly, they can be inferred from the learner's behavior and interaction with the environment (James& Gardner,1995). Understanding this aspect can assist educators in recognizing the positive effect of praise and reinforcement on some learners, but negative influence on others. Some students prefer intrinsic reinforcement, while others need extrinsic rewards.

Physiological Aspect (Perceptual Aspect)

The third one is the physiological aspect of learning style. This aspect identifies the ways individuals assimilate information. It includes a biological response of body to external stimuli (James& Gardner,1995). Cornett (1983) categories this aspect under four subcategories. Sensory perception is the first category which includes five main components, namely visual, auditory, kinesthetic, taste, and smell. Environmental characteristics are the second category that includes noise level, light, temperature, room arrangement. The third one is the need for food during study. The last one is the times of day for optimum learning.

Dimensions of Learning Styles

Active and Reflective Learners

Felder and Soloman (2000) compared the two categories. They claimed that active learners learn, retain, and understand the information by doing something active with it, such as discussing or explaining it to others. On the other hand, reflective learners tend to think about the information quietly first. In other words, the active learner's response is "Let's try it out and see how it works," the reflective learner's response, on the other hand, is "Let's think it through first". Another difference is that active learners prefer group work, while the reflective learners tend to like working independently. They also claimed that everybody is active sometimes and reflective sometimes. A balance of the two is more desirable.

Sensing and Intuitive Learners

This second dimension falls under two categories: sensing learners and intuitive learners. Felder and Soloman (2000) held a comparison between the two categories. The first one is that sensing learners prefer learning facts while intuitive learners tend to like finding possibilities and connections. The second difference is that sensors often tend to like using well-set up methods to solve their problems and they do not like surprises; intuitors do not like repetition and they prefer creating new ideas. The third one is sensors tend to be good at memorizing; intuitors may be better at realizing new concepts. Another difference is that sensers prefer to be more practical and aware than intuitors. While intuitors are more innovative than sensors and they like working faster. The last one is that sensors dislike materials that are not connected to the real world, while intuitors dislike materials that focus on memorization and routine situations.

Visual and Verbal Learners

The third dimension of learning styles falls under two categories. The first one is visual learners who have a good memory for the things that they see such as pictures, diagrams, films and demonstrations. While in the second category, the learners get more out of words, including written and spoken explanations. Felder and Soloman (2000) claimed that most people are visual learners. They also added that good learners are those to have the ability to process the information either visually or verbally.

Sequential and Global Learners

The fourth dimension of learning styles is divided into two categories. The first category is Sequential learners. This type of learner, according to Felder and Soloman (2000), tends to perceive information in linear steps and they follow logical stepwise paths in finding solutions. Global learners, on the other hand, tend to learn in large jumps without seeing connections and they can solve complex problems quickly.

Creative Teaching Strategies

This is the last section in the theoretical framework which is divided into two subsections. The first one discusses some factors that affect successful teaching strategies, such as personality traits, family backgrounds, growing up and learning experiences, peer interaction, devotions to creative instruction, motivation, and beliefs in education. The second part discusses some strategies for creative instruction, such as student-centered activities, set induction, effective use of questions, use of multi-teaching aids assistance, and peer tutoring.

Factors Affect Successful Teaching Strategies

There are seven factors that make a creative instructor. They are as listed below:

Personality Traits

Sternberg (1988) listed some common traits of creative teachers, such as self-confidence, openness to experience, fantasy oriented, imagination, emotional-sensitive, drive, and ambition, nonconformity, attraction to complexity, flexibility of thoughts and risk taking. Horng et al. (2005) found out that perseverance in dealing with difficulties, strong desire to learn new experiences, and self-confidence are the creative teachers' traits. Being good at creating original ideas and having a sense of humor is other traits for successful teachers. It is worth mentioning with these qualities, teachers will be able to approach the difficulties they face no matter what obstacles they encounter (Horng et al., 2005).

Family Backgrounds

The second factor is parents' support. The teachers should have the freedom to explore themselves and they should grow up in an environment that encourages them to learn from their errors without imposing punishment on them. Sternberg (1988) believed that parents can be a model of creative thinking and can explain to their children the significance of creativity. Family factors that shape a person's creativity include social - economic status, structure and composition, parents' education beliefs, relation and expectation with children, and relations among siblings (Horng et al., 2005).

Growing up and Learning Experiences

Childhood is a critical period where children like to discover nature by using their imagination to create stories. Creative teachers' experiences are connected with nature and observation of all life forms. However, childhood inspiration is not enough for creativity. Most creative instructors see that learning experiences and school education fashion their creativity (Horng et al., 2005). Feldman (1999) claimed that teachers, mentors, schools are essential for the success of creativity.

Peer Interaction

The fourth factor that influences creativity is peer interaction. Creativity is supported with working in small groups (Horng et al., 2005). Gardner indicated that good relationships with peers can help in nourishing their creative power.

Devotion to Creative Instructions

According to Horng et al. (2005), teachers should develop their ideas constantly and should equip themselves with the most innovative theories, methods or techniques of their field. One goal of the creative instructions is to give the students the opportunities to use their imagination freely without following unnecessary regulations. However, creative instruction is not an easy task, but it requires significant work (Simplicio,2000). It takes more than 10 years to shift from novice to master in any of the fields so far studied (Gardner, 1994).

Motivation

It is another factor that influences creativity. Petrowski (2000, as cited in Horng et al., 2005) suggested that the person's creativity can be constantly developed by having the passion and enjoyment in work. Creativity may not only need motivation, but also generate it. Creative teachers should be intrinsically motivated since they see the tasks they teach as interesting activites. Torrance (1987 as cited in Horng et al., 2005) indicated that people who do the things they love are more creative than the others.

Beliefs in Education

The common beliefs are self-expression, sharing, and communication. Creative teachers should adopt diverse approaches to share their values to their student (Horng et al., 2005).

Strategies for Creative Instruction

Student-Centered Activities

Yang (2008) depicted language learning as a soccer team where the teacher is the coach who presents various types of plays, gives advises, and provides feedback. On the other hand, students are the team players who play, make decisions and evaluate themselves regularly during the game. He also defined a learner-centered classroom as an environment that creates autonomous learners who are responsible of their own learning. It must initially be established by the teacher and then accepted by the students. Horng et al. (2005) indicated that the duty of the teachers is as facilitators rather than lectures and the students have the freedom to choose the way they want. Teachers act as partners, inspirers, navigators, and sharers throughout the class, while students act as performers and colearners.

Set Induction

It is a pre-planned action by the teacher to open up the hall of knowledge to the students in a positive atmosphere leading to an involuntary attention to the topic (Ayua,2017). Without this appropriate set, the students may not be energized and they could get bored or fatigued. The goal of this strategy is to arouse the students' interest and maintain their attention throughout the process of learning. To achieve these goals, teachers use many devices, such as short stories, dramatization creative questions, and brainstorming. Humor is another way to spark the students' interest. It is worth mentioning that boredom maybe the largest obstacle to teaching and it is up to the teachers to gain the students' attention. Humor can create cheerful atmosphere, decrease anxiety and provide laughter (Al-Duleimi & Aziz, 2016).

Effective Use of Questions

The ability to use questions effectively and properly is considered as an essential skill in all teaching (Ayua,2017). Richards and Lockhart (2000, as cited in Nazari, 2012) classified the questions into three groups: procedural questions, convergent questions, and divergent questions. Procedural questions are related to classroom routines and are used to guarantee the process of teaching. Convergent questions focus on the main theme, and they require short answers, like "yes" or "no". Divergent questions require higher-level thinking, and they encourage diverse answers that are not short. The questions are of two types: display or referential. The answer for the first group is already known (Nazari, 2012), while referential questions, according to Lee (2016), are open ended questions that involve the students to think and express their opinions over a topic, leading to stimulating interaction. These questions require more thought and ask the students to respond in a longer answer. Referential questions are integral parts of HOTS that can help develop critical thinking. There are many functions for questions. The first one is to test children's readiness for the lesson. The second one is to arouse interest and motivate students. The third one is to discover students' strengths and weaknesses. The fourth one is to help students to perceive the topic being discussed. The fifth one is to activate students to search for additional information on their own. The sixth one is to review the previous lesson. The seventh one is to enable teachers to discover individual differences. The eighth one is to hold the students' attention throughout the lesson. The last function of the questions is to evaluate the lesson (Ayua,2017).

Use of Multi-Teaching Aids Assistance

The teachers should be good at using multimedia assistance that aids their instructions. They should use creative teaching aids, such as visuals and multimedia to arouse their excitement and thinking (Horng et al., 2005). Simplicio (2000) also asserted using means of modern technology in education and teaching. It is worth mentioning that modern students grow up with high-tech devices. In the research literature, visuals have been found helpful in teaching L2. Through pictures, teachers display visual stimuli that can be universally perceived by all students. Using various visual aids can

grab the students' attention, motivation, and assist students to speak out their thoughts through non-verbal means of expression (Barbara & Marsha, 2007).

Peer Tutoring

It means that two students of different abilities and backgrounds work together (Barbara & Marsha, 2007). It is an effective strategy when a native English speaking student work with an English language learner, they become teachers and recourses for each other, often relating better to each other than they would to a teacher (Kline, 1995, as cited in Barbara & Marsha, 2007). The goals of this strategy are to promote communication, motivate students, and assist students to attain a higher level of achievement. Educational scholars had recognized the significance of peer tutoring for both tutor and tutee (Barbara & Marsha, 2007). For the tutor, it develops the progress of leadership and interpersonal skills. It also facilitates a new appreciation and understanding of others who may be diverse. For the tutees, peer tutoring helps them to actively engage in the learning process as they do the speaking tasks in authentic situations.

Pedagogical Practices of Promoting HOTS Employed by Teachers

Chun (2019) identified the pedagogical practices implemented by teachers. They are as following.

Inquiry-Based Learning

Inquiry learning occurs when a teacher acts as a facilitator by stimulating discussion among students so that they will be autonomous learners (Maming, 2018). It is the most frequently used technique by language teachers. Questioning students and encouraging them to make reflection are two practices employed by teachers to employ inquiry teaching (Charanjit et al., 2018). Maming (2018) asserted that effective inquiry is not just merely asking questions, but it is also converting complicated data into meaningful knowledge by interpreting the information. Effective questioning also can activate the students' prior knowledge which fits the element of schemata theory. The students who reflect their own knowledge have the opportunity before answering the questions (Ballakrishnan & Mohamad ,2020). Teachers favored this strategy since it

could stimulate students' thinking in the classrooms (Chew & Zul, 2018). Questions are divided into two types, namely display and referential. Display questions, in which the answer is known by the teacher, are used by teachers to check the students' understanding. Referential question is a type of question in which the teacher does not know the answer and he is asking the question to elicit a discussion (Gozali, et al., 2021). Questioning is connected to students' achievement, improved test results, learning growth, and better understanding (Gozali, et al., 2021).

Thinking Map

Thinking map, which was created by David Hyerle, is known as a common visual language for learning. The maps can be used across disciplines and each map has its own thinking processes. They are circle map, bubble map, double-bubble map, tree map, brace map, flow map, multi flow map, and bridge map. It is non-linguistic representation that acts as visual representation of thinking. Unlike graphic organizers, thinking maps promote strategic thinking to help students to see which skills are suitable to be used to solve certain problems Salleh& Halim (2019). In this practice, the teachers placed students into groups to trigger a discussion and interaction in answering the questions in the circle map. Throughout the process, students were also able to generate ideas and justification for their answers. With the help of thinking map, teachers facilitated students' process in producing ideas and made them think about the text critically (Ainon &Intan ,2016).

Constructivist Learning

It is the most favored practices in promoting HOTS in English lessons. Noh et al. (2017) revealed that constructivist learning such as group work is used by teachers to promote students' growth of HOTS in classroom. Brown (2007) declared that social constructivism is concerned with applying social interaction and cooperation to promote learning.

Brainstorming

It is regarded as one of the effective practices in enhancing HOTS (Chun & Abdullah (2019). According to Siti (2012), the implementation of brainstorming

activities in students' learning of HOTS can also been seen among teachers who taught polytechnic courses. Brainstorming can be implemented in groups as it allows the students to brainstorm and discuss ideas in groups (Ballakrishnan & Mohamad, 2020). When students are engaged in brainstorming activities, there is an opportunity for them to stimulate their own thoughts in generating ideas (Zainudin et al., 2018). Ballakrishnan and Mohamad (2020) declared that students could brainstorm the HOTS questions in groups to allow more ideas to flow in during brainstorming activities. They added that one student's idea might give another student a better suggestion on the discussed topic.

Problem-Based Learning

It is an educational approach where the learning process starts with a problem. The problems are usually based on real-life or from a problem faced by a character in a literary text. Then, the students need to come up with solutions to the problems by having group discussions (Singh et al., 2020). In other words, the students need to give their own opinions after they have analyzed the situation. It is rare to see language teachers implement problem-based teaching (Mohd et al., 2016). According to Ganapathy et al. (2017), problem-based learning is considered as one of the innovative modes to promote the development of communication and self-directed learning skills.

Obstacles in integrating HOTS

Although implementing such an idea has benefits, it has obstacles that are faced by teachers and students. Researchers found it difficult to implement HOTS in classes because of the lack of either teachers' lack of knowledge of HOTS or students' lack of knowledge in generating ideas or both. That is why it is important to train teachers and students how to incorporate and use HOTS. It is worth mentioning that there are more studies that explored the HOTS from the students' point of view than those which discussed this topic from teachers' perspectives. So, these obstacles are clustered into two categories.

Students' Obstacles

Syafryadin et al. (2021) pointed out that lack of vocabulary and grammar, lack of knowledge about the material, and poor argument are the obstacles that face students in

HOTS classrooms. According to Shafeei et al. (2017), the lack of the knowledge about HOTS questions and the students' English low proficiency level are two basic reasons for this problem. According to Fakhomah and Utami (2019), the students' ability is one of the obstacles to implement HOTS in classrooms.

Teachers' Obstacles

The second category is the obstacles that face teachers. The difficulties are that teachers' lacked knowledge in thinking skills and being unskilled in implementing them. (Zamri and Jamaludin, 2000; Zulkarami, 2011; Seman, Wan, Yusuff, & Embong, 2017). Seman, Wan, Yusuff, & Embong (2017) also discussed major challenges faced by teachers. The factors were presented in three categories, namely teachers, teaching and learning processes, and students. To rectify these obstacles, it is important to understand the real phenomenon in the real setting because would be inappropriate without recognizing the challenge. The great challenge from the perspective of teachers is their perception on and for HOTS; competences in and teaching for HOTS; and pedagogical knowledge of HOTS. The first factor indicates that teachers did not have adequate perception of HOTS. This lack of knowledge and misconception of HOTS lead to inability to implement them in teaching. Therefore, developing HOTS in students would be hard to achieve. In teaching and learning processes' aspect, the results showed that needed more knowledge and competency in pedagogy. The results in students' aspect indicated that pupils have different learning abilities which make them unable to think for themselves.

In Indonesian context, teachers feel that they do not have a sufficient experience and essential materials to implement HOTS in their classrooms. Besides, students' mixed ability is the third struggle for applying HOTS. (Prihastuti& Widodo, 2019; Retnawati et al., 2018; Tyas et al., 2019; Gozali, Lie, Tamah, & Jemadi, 2021). Similarly, Seman et al. (2017, as cited in Gozali et al., 2021) pointed out that Students' mixed levels and styles is the source of challenge for teachers.

In line with the previous studies, Mursyid and Kurniawati (2019) pointed out that the constraints are present in the lack of experience and understanding, limited knowledge in choosing words, lack of ability in integrating HOTS, and focusing only on

transferring the knowledge. They suggested training the students in how to use metacognitive and thinking skills.

Related Studies

Studies on teachers' perception are still at their infancy. The previous studies focused more on students' responses after integrating HOTS in their process of learning (Shafeei, et al., 2017)

Jannah (2018, as cited in Tyas, et al., 2019) claimed that teachers are crucial contributors to the success of the education system. Teachers, therefore, must be the assistant and role model for the students to enable them to acquire the needed skills and competences for this era (World bank, 2020, as cited in Gozali, et al.,2021). In this regard, Collins (2014, as cited Tyas, et al., 2019) stated that it is hard to assign a teacher or a principal who does not have awareness about using HOTS. Tyas et al. (2019) discussed the significance of HOTS in the learning process in their study, the teachers' need to have competence in developing HOTS, and the obstacles encountered by EFL teachers in Indonesia. They pointed out that the teachers' ability is still frustrating. The results found out that there are factors or challenges for EFL Indonesian teachers in developing HOTS. Yoke, Hasan, Jangga, and Kamal (2015) also stated that teachers have negatively viewed infusing HOTS.

Seman et al. (2017, as cited in Gozali, Lie, Tamah, & Jemadi, 2021) pointed out that "teachers still have basic, or even mistaken notions about HOTS.'' They also still face obstacles in applying HOTS in their classrooms. Students' mixed levels and styles are the source of challenge for teachers. In line with this study, Zoher et al. (2001, as cited in Gozali, et al., 2021) stated that implementation of HOTS does not fit all students, especially students with LOTS abilities. Similar conclusion along this line is found in Hashim et al. (2015 as cited in Fakhomah &Utami, 2019). The findings of their study showed that two-thirds of the teachers were low-level users of HOTS.

Tyas et al. (2019) claimed that teachers need to improve HOTS since they do not give enough explanation about HOTS and few of them practice HOTS activities. The study aim was to investigate the obstacles that EFL teachers may face in implementing HOTS. This research aimed at investigating the challenges faced by EFL Indonesian teachers in improving HOTS through qualitative research design. The collected data

showed that EFL teachers' varied perceptions towards HOTS were still slight. The findings also indicated that not all EFL teachers know and perceive the idea of HOTS well. The teachers assumed that "HOTS- based questions are hard to be solved and they still mix them up with skills for solving difficult problem" (p. 55). This misunderstanding led the teachers to prepare tough questions instead of HOTS-based questions. Thus, the results showed that EFL teachers agree on the necessity of applying HOTS in the classrooms. Despite their awareness of the significance of HOTS, they do not have sufficient knowledge on improving HOTS. They mentioned four challenges that faced EFL teachers, namely the limited understanding about the concept of HOTS and LOTS, the limited source of learning, the limited experience in developing HOTS, students' cognitive competence and the difficulty level of EFL subject matters. They concluded that demographic factors, including age, gender, and year of teaching experience had nothing to do with the perception of HOTS by EFL teachers. In line with this study, Gozali et al. (2021) revealed that there is no significant difference between acquiring HOTS among teachers and years of experience. Singh and Marappan (2020) also stated that the experience of teachers and their infusion of HOTS are not satisfactory. On the other hand, Musyid and Kurniawati (2019) declared that age and experience affect the teachers' perception on integrating HOTS in their classrooms.

Kurniawati and Mursyid (2017) also investigated English teachers' perceptions on HOTs. The researchers used a qualitative approach to find out the results. The participants were six senior high school English teachers from different three generations. After that, the researchers used three methods to collect data, which are open ended questionnaire, classroom observation and document analysis. The main aim of the study was to find out the teachers' opinions towards HOTs and the obstacles that English teachers may face in implementing HOTs strategy. The outcomes of the study showed that English teachers from generation Baby Boomers (BB), who were born after World War II and generation X (born between 1961-1980) knew and had a background about HOTs strategy and employ HOTs in their classrooms. They knew the definition and importance of implementing HOTS in classrooms. On the other hand, generation Y teachers (born between 1981-2000) did not know about HOTS since training is not enough and does not have enough experience. It is clear that teachers from generation bb

totally understand the concept of HOTS because they have experience on teaching for a long period of time. As a result, it is recommened for newer generation to learn more about HOTS. The results also found out that there are constraints in applying HOTs, including lack of knowledge in choosing operational words, lack of expertise in developing lesson plan, lack of potential in immersing creativity in classroom activities, and the teachers' focus on transferring the information rather than employing student's thinking skills. To solve the inadequate experience of HOTS among teachers, the government must organize various training and workshops, as well as individually through teachers' group

Shafeei et al. (2017) examined the obstacles that faced by teachers in incorporating HOTS in their classes. The instruments used in the study were class observation, interviews, and questionnaires. They analyzed observation and interviews thematically while they used descriptive statistic method to analyze the questionnaires. The results of the study showed that teachers prefer LOTS questions to HOTS questions. The researchers found out that the lack of the knowledge about HOTS questions and the students' English low proficiency level were the two basic reasons for this problem. Therefore, the researchers recommended that the teachers should have adequate knowledge and training before incorporating HOTS into classes.

Seman et al. (2017) also discussed major challenges faced by teachers. The factors were present in three aspects, namely teachers, teaching and learning processes, and students. To rectify these obstacles, it is important to understand the real phenomenon in the real setting because it would be inappropriate without recognizing the challenge. The main challenge from the perspective of teachers was their perception on and for HOTS; competences in and teaching for HOTS; and pedagogical knowledge of HOTS. The first factor indicated that teachers did not have adequate perception of HOTS. This lack of knowledge and misconception of HOTS lead to inability to implement them in teaching. Therefore, developing HOTS in students would be hard to fulfill. In teaching and learning processes' aspect, the results showed that needed more

knowledge and competency in pedagogy. The results in students' aspect indicated that pupils have different learning abilities which make them unable to think for themselves.

Fakhomah and Utami (2019) also conducted a study on five participants. They were a part of Pre-service English Teacher Program. Surprisingly, the results indicated that participants had a high perception in infusing HOTS in the classrooms. However, they faced difficulties, namely time management and students' ability. In the time management factor, the teachers need more time and they should plan their lessons accordingly. The second obstacle was students' ability since students have different background knowledge.

Ardini also (2017) concluded that the teachers' perception was very good and the teachers fully support the application of HOTS. He added that the teachers were already familiar with HOTS and HOTS can positively increase the level of thinking of the students.

Regarding students' perception, few studies have discussed the factors that may affect the students' HOTS from the students' perspectives (Lu, et al., 2021). They stated that it is difficult to realize the link between students' HOTS and the essential factors. There are factors that have an impact on student's HOTS. They are peer interaction and learning motivation, as well as smart classroom preferences and learning strategy. According to them, Peer interaction is a process where two students work together and share their ideas. Learning motivation is a set of procedures that aims at achieving a goal in the learning process. Learning environment is the students 'perception of a certain learning environment. Learning strategy is a set of procedures that can promote the acquisition, storage, and utilization of information. The finding of their study has indicated that students' peer interaction and learning motivation directly influence students' HOTS. In contrast, smart classroom preferences and learning strategy do not directly influence HOTS. This proves that peer interaction and learning motivation positively influence students' HOTS (Gong et al. 2020; Hwang et el. 2017; Roberts and Dyer 2005; Tsai et al. 2011; Lu, et al., 2021)

Yoke, et al. (2015) investigated how ESL reading classroom integrates HOTS in and to what extent students understand the notion of HOTS. In the study, thirty participants had two tasks to work on. The tasks were reading two different articles from

the newspaper and then to analyze, synthesize, and evaluate the text. The results revealed that approximately 60 percent of the students perceived the concept of HOTS, thirty percent of the students had little knowledge of the idea of HOTS, and ten percent did not know what HOTS meant. The results indicated that the students like the given activities since they are creative and out-of-the-box. These findings also indicated that the students' perceptions toward HOTS were positive.

Chen (2008) examined in his paper how EFL classes can infuse HOTs into and to what extent they enhance students' skills. In his study, he used a mixed method. The intervention lasted for three months. To collect data, he used various instruments such as questionnaires, videotaping, and interviews. The results of the study showed that thinking skills, including LOTs and HOTs, are significant in the students' learning process. In addition to that, the findings revealed that students can answer either LOTs or HOTs questions and HOTs provided the students with more opportunities to talk in English and to express their ideas more freely. In his study, the researcher explored the learners' attitudes towards HOTs in L2 classes. He stated that learners have difficulties in getting accustomed to HOTs questioning. The researcher concluded that the students take time to get accustomed to HOTs.

Fakhomah and Utami (2019) stated that students' ability was one of the obstacles to implement HOTS in classrooms. According to the findings of their study, they found out that there were other students who can solve problems that require HOTS, while there were also pupils who find difficulty in using HOTS. Therefore, the teachers needed to plan their questions accordingly.

Bedir (2013) stated that there was no specific method on how we can integrate HOTS in classes. He investigated whether students could develop their critical thinking through a critical reading course. The results of his study revealed that ELT students were not aware of critical thinking skills. The findings also revealed that students were only reading without paying attention to the argument. According to his study, he stated that recent studies have shown that pure instruction failed to teach HOTS.

Syafryadin, et al. (2021) declared that students should perceive HOTS. Their study investigated the students' perception toward HOTS in speaking class and the obstacles that faced to them. The results revealed that students find it difficult to

implement HOTS, especially for evaluating and creating. This means that they are not able to make judgments and suggestions. However, students had a positive perception of HOTS since they think that infusing HOTS into classes will train their brain to think critically and creatively.

The review of research literature provided in this chapter creates a board picture of the HOTS-related issues. The theroies consist of critical thinking, Bloom Taxonomy, theories of language learning , methodologies of language learning, strategies of language learning, learning styles, and stratieges of language teaching were discussed. The chapter intended to bring light into the recent studeis related to current study. In the next chapter, the methodology chapter of the study will be presented.

CHAPTER III

Methodology

Introduction

The previous chapter discussed the theroies of critical thinking, Bloom's Taxonomy, theories of language learning , methodologies of language learning, strategies of language learning, learning styles, and stratieges of language teaching .The chapter provides information on the methodology of the study and it is divided into six sections as follows: research design and procedures, participants and sampling, data collection, data analysis procedures, reliability and validity, and ethical considerations. The first section presents the information related to the research design and the steps that have been followed regarding each phase of the study, the second section provides detailed information on the place and the setting of the study in general and participants and their demographic information , the third section provides information regarding the tools that have been used to collect the data, the fourth section describes how the data were inserted to be analysed, the fifth section illustrates the ethical concerns that have been considered before implementing the study, the last section gives insight into the factors that have been taken under consideration to ensure validity and reliability.

Research Design and Procedures

A quantitative research design was employed to investigate HOTS (Seif, 2017, as cited in Nair & Ngang, 2012, Hu et al., 2010, Sullivan, Mann et al., 2009, Fischer et al., 2009). Therefore, a quantitative design is seen as is an effective way for such purpose since it provides measurable evidence (Seif, 2017, as cited in Cheng, 2011). According to Sugiyono (2018), quantitative research is a method that relies on positivistic (data concrete) research data in the forms of numbers that are measured by using statistics. Unlike qualitative research, quantitative research aims at having a numeric analysis of data rather than in-depth understanding of a situation. Sudjana (2012) also stated that quantitative research aims at numerically describing existing phenomena that occur in the past or the present. In this study, the questionnaire was used to achieve the study

purpose and to measure the teachers' and students' perception towards HOTS as well as the techniques used for improving their HOTS.

The current study took a place at one of the top private institutions situated in Istanbul in Turkey. The institution, which serves as a study setting, is a representative of private institutions in Istanbul, as it is populated by 11947 students and has 37 classrooms, with approximately 30 students per class. This specific institution was chosen because of its continuous success as a university that keeps reaching its future goals rapidly and is mentioned among 300 global universities. In addition to that, teachers employ innovative methods when they teach to promote HOTS such as brainstorming and questioning techniques. They have adopted an understanding focused approach that recognizes the natural environment of language learning and acquisition. This city was also chosen because it is the largest city in Turkey.

The Foreign Languages Department staff of the private university where this research was conducted includes 54 teachers and the head of the department. To have a better understanding of the students' levels, the study explored the characteristics of their levels. All the students before they start their departmental courses, they must have a good command of the English Language. Then, they submit a proficiency test at the preparatory school to evaluate their levels before they enroll in their desired department. Students who can score 60 or above out of 100 pass the test and can start their departmental courses. On the other hand, the students who fail the exam are placed at a suitable level at the preparatory school depending on their scores. Then, they can take the proficiency exam again after completing the assigned levels and they can complete their registration process and enroll in their departments.

As the first step, a meeting was carried out with the sample class of 19 teachers who teach in the Foreign Language Department and they were informed with all the detailed information for the study. The second step was informing the students of all the related information for the purpose behind conducting this study. As the students were above 18 years old, permission was obtained from them through a consent form before starting the study (see Appendix A). The third step was providing the class with detailed information about the questionnaire process in order to participate in the study. Later, a meeting with students and teachers was held that provided detailed information

regarding the study procedures and assigned date for the questionnaires. At the end of the meeting, all the participants exchanged their contact information to be in touch with the researcher.

The fourth step was the distribution of questionnaires for both teachers and students. Before distributing the questionnaires, it was noticed that teachers allocate four hours a week for extension skills tasks (see appendix B). It is a way of learning-by-doing. On this day, the students are given additional listening, reading and writing exercises. Before the teachers start their skills extension tasks, they allocate one session for activating their prior knowledge on the topics that will be discussed through using questioning and brainstorming techniques to enhance HOTS. HOTS is one of the most crucial skills that teachers have to infuse in their classrooms. Then, the teachers start distributing the skills extension tasks. The students are given 50 minutes to finish two listening tasks and two reading tasks. For the writing part, the students are given 30 minutes to write a first draft of a well-organized essay that will not be graded. During the writing task, the teachers will give feedback for their writing. After the students finish all tasks, the teachers collect the papers. Later, the students are asked to upload the first and second draft to Blackboard. The first draft will not be graded while the second one will be graded. In addition to that, teachers use other online platforms, provided by Cambridge as self-study, such as Acheive3000, Grammar and Beyond to enhance their thinking skills. In these platforms, they are given extra exercises as a homework to improve their English skills at home. Moreover, Unlock English textbooks by Cambridge University Press are the official textbooks that are being used at the institution in Istanbul since 2016/2017 (see Appendix C). This series of books has two editions. The second edition has some modifications. One of these changes is that the title became “Unlock English, Reading, Writing, and Critical Thinking” (Qasrawi & BeniAbdelrahman, 2020).

On the assigned date for distributing the questionnaires, which was after two days from the meeting, it was made sure that the surrounding environment in the classes was suitable to conduct the questionnaires for both groups of participants to ensure that it did not affect their responses. The questions were explained to them in order to

facilitate their understanding of the questionnaire's items. Then, the questionnaires were collected from the students after thirty minutes from the starting time.

Participants and Sampling

This study involves two groups. The first group was students from English preparatory school (ages18-21) while the second group was teachers from Foreign Languages Department.

Students' Sample

The selection of the sample class was not a random procedure because the Head of the Foreign Language Department was asked to assign a class that the study could be done in. In addition, the choice of participants was convenient. Convenience Sampling is a type of nonrandom sampling where the researching subjects of population are easily accessible to the researchers (Etikan, 2016). It is a type of nonprobability sampling in which everyone does not have a chance to be selected (Özdemir et al., 2011). The frame consists of two classes from high-levels and one from the proficiency level. Sixty students participated in the questionaries. The questionnaire for the students aimed to explore their perception on HOTS at the English Foreign Languages department at one of the top private institutions in Istanbul.

Table 1.

Demographic Information of the Participants (Students)

Demographic Variables		
Gender	Male	38
	Female	22
Age	18	33
	19	17
	20 and above	10
English Language Level	Poor	8
	Average	39
	Excellent	13

Teachers' Sample

While in the teacher's group (n=20), 19 teachers agreed to take part in the research. This group included teachers of different disciplines and with working experience ranging from 3 to 20 years. The fact that teachers volunteer for this study introduces a non-random selection bias since they may not well present the entire target population. Convenience sampling was used where the sample is chosen on the basis of the convenience of the investigator. This type of sampling is commonly used, less expensive, and there is no need for a list of all the population elements (Acharya, et al. ,2013).

Table 2.

Demographic Information of the Participants (Teachers)

Demographic Variables		
Gender	Female	14
	Male	5
Age	23-30	9
	30-40	4
	40 and above	6
Years of Experience	3-10	13
	10-15	3
	15-20	3

Date Collection

Questionnaires are the main research instrument. The questionnaire was adapted from Seif (2017) doctoral thesis in which the items of the questionnaire are valid. The aim of the questionnaire is to explore the perceptions of both teachers and students. As a result, two questionnaires were developed. The first questionnaire was designed for students while the second one was for teachers.

The Students' Questionnaire

This questionnaire has two sections. The first section includes demographic information about the students including age, gender, and English language level. While the second section includes 26 closed items reflecting students' perceptions of their cognitive skills and thinking depositions (see Appendix D). Respondents rate the items

by using a six-point Likert Scale extending from ‘strongly disagree ‘to 6 = ‘strongly agree ‘. Each participant rates each item on the same response scale. The items are written clearly to ensure that the students fully comprehend the questions.

This questionnaire measures two domains of thinking skills; cognitive domain and affective domain. According to the questionnaire’s items, students’ cognitive skills were divided into four categories (questionnaire items 1-11). The first category is the learner’s capacity of organizing the work on learning tasks (items 1, 2). The second category is controlling and modifying cognitive learning processes (meta-cognition) (items 3-5). The third category is formulating and solving problems (items 6-8). The fourth category is transferability of knowledge and skills (items 9-10).

While in the second section of the questionnaire, the affective domain was divided into seven categories (items 12-26). The first category is the level of the learner’s self confidence (12-14). The second category is respect and tolerance of other’s beliefs (15,16). The third one is attitude to teamwork (17-19). The fourth one is pervasiveness of HOT (20-22). The fifth one is self-directed learning as indicator of learning motivation (23-24). The sixth one is the influence of positive emotions on learning motivation (25). The last category is students’ civic responsibility (26).

The Teachers’ Questionnaire

The teachers volunteered to participate in this study. This means that this study is a non-random selection bias since the teachers’ voluntary participation may affect the representativeness of samples. The teachers’ questionnaire has 25 closed items presenting teachers’ perceptions of the methods they use for developing the HOTS of students. This questionnaire has two sections (see Appendix E). The first section has demographic information about teachers, including age, gender, and years of experience. While the second section has two categories with subsections. The first category has six sub sections. The first section discusses the methods for developing cognitive skills of students (items 1- 14). According to the questionnaire items, the first method is teaching students to properly organize the work on the learning task (1,2). The second method is fostering metacognition skills (3-4). The third one is developing reasoning and argumentation skills and tackling problems requiring alternative solutions (5- 7). The

fourth one is developing thinking creativity by encouraging divergent thinking (8-10). The fifth one is instilling HOTS in low achievement students (11,12). The last one is increasing the transferability of thinking skills (13, 14).

While the second category discusses the methods for developing students' thinking depositions (affective domain) (15-25). The section falls under six categories. The first one is encouraging pervasive thinking in students (15,16). The second one involves students in a team-thinking process guided by the teacher (17-21). The third one is educating independent and motivated learners (22). The fourth one is the use of student's positive emotions for increasing learning motivation (23). The fifth one is promoting tolerance of other's beliefs (24). The last one is developing students' civic responsibility (25).

Steps of Data Collection

The aim of collecting the data is to gather information about the use of HOTS by both teachers and students and the problems in HOTS implementation. To achieve this purpose, the researcher uses some procedures of data collection:

1- Asking for permission of the head of English Foreign Language department at one of top private institutions in Istanbul.
2- Choosing the participants based on the proposed criteria.
3- Distributing questionnaires for both teachers and students.

Data Analysis Procedures

The data gathered from questionnaires were analyzed quantitatively by using the Statistical Packages for the Social Science (SPSS) version 24. For students' variables including age and English Language Level, ANOVA was used and an independent sample T-test was employed to measure the gender variables. Regarding teachers' variables, an independent T-test was used to measure the gender and ANOVA was employed for both age and years of experience variables. Then, non-parametric test of the Mann-Whitney U test was used to compare differences between two statistically independent samples (i.e. results from one sample do not affect results in other sample) (Corder & Foreman, 2009). It is used to examine if there are any significant statistical differences in each group.

Validity and Reliability

The data collection should be valid. The idea of internal and external validity is essential to quantitative research. Reliability is the consistency, stability, and repeatability of results (Carter & Porter, 2000). Trochim, (2006) claimed that the research design can be internally valid if it has measurement validity and reliability. On the other hand, external validity means that the research results can be generalized to wider population, cases or situations (Cohen et al., 2007).

To assess content validity, two expert academicians examined the study. One of them is an expert on evaluating education and the other one is an expert on educational sciences. Moreover, Cronbach's coefficient alpha was used to measure internal validity. The questionnaire for teachers is pretested with the help of the teachers of Foreign Language Department. Those teachers engage some of their students to test the questionnaire of the students. In addition to that, the same researcher conducted testing, the same questionnaires were used under the same condition. In the current research, the only threat to external validity is the teachers' self-selection to take part in the study which reduces the ability to generalize from the samples in this study to wider population. To improve external validity, random samples were conducted among the students and appropriate research design and statistical analysis techniques to the types of data collected.

Concerning reliability, research questions were written obviously and presented as consistent with other steps of the research. Moreover, two researchers examined the analysis independently and then the researcher compares the results of the analysis. As a result of comparison, the analysis results were close. In addition to that, with the help of the other teachers, the data and improved the questionnaire according to the comments received from the pilot. According to the results of the Cronbach's coefficient alpha test, alpha level below 0.7 are considered acceptable. The results of the testing show that both

questionnaires have good internal reliability: all a-Cronbach scores range from 0.60 - 0.79 (see tables 3 and 4).

Table 3.

The Results of Alpha Cronbach Coefficient Test for the Questionnaire of the Students.

Section	Questionnaire Items	Likert Scale	Alpha Cronbach
Students' Thinking skills	1-11	1-6	0.690
Student's Thinking Dispositions	12-26	1-6	0.711
Total	1-26	1-6	0.794

Table 4.

The Results of Alpha Cronbach Coefficient Test for the Questionnaire for Teachers

Section	Questionnaire Items	Likert Scale	Alpha Cronbach
Pedagogical Methods for Instilling HOTS in Students.	1-14	1-6	0.757
Pedagogical Methods for Developing Dispositions to HOTS	15-25	1-6	0.703
Total	1-25	1-6	0.789

Ethical Consideration

Ethical issues associated with research processes is essential since any social research has the potential to affect the people participating in it (Cohen et al., 2007). To start the data collection, the questionnaire questions were sent to the Ethics Review Board of NEU. The committee approved the study and assumed that it is applicable (see Appendix F). Once the approval and written permission from the Ethics Review Board of Near East University (NEU) were received, collecting the data started. In addition, a

verbal approval was received form my supervisor to start drafting my thesis. Since the participants are over eighteen, they have to sign a consent letter form by which they agree to participate voluntarily in the study. All the participants are informed that their identities and personal information will remain confidential and all the obtained data will be used for study purposes only. The participants were informed about how the research data will be stored and how it will be used. This consent is requested by the researcher before starting data collection.

In the current research project, a quantitative method study was chosen to investigate the perception of both students and teachers of HOTS in one of the main private universities in Istanbul. Information as regards to the research design, place and the setting, participants, the tools, the data analysis, the ethical concerns, and validity and reliability were presented. The following chapter will present the findings and discussion chapter of the thesis.

CHAPTER IV

Findings and Discussion

Introduction

This chapter presents and discusses issues that have the quantitative data collected in order to reach the aim of this study. Information regarding the results of the analysis of data collected during the investigation is presented to answer the research questions posed earlier.

1-What are English as a Foreign Language teachers' and students 'perceptions towards infusing HOTs in classrooms?

2- Do age, gender, years of experience affect the teachers' perceptions of HOTS?

3- Do age, gender, English language level affect the students' perceptions of HOTS?

4- Is there any statistically significant difference and/or similarity between the perceptions of teachers and students with regards to HOTS?

Findings

The findings revealed that teachers and students have positive and high perceptions regarding HOTS in classrooms. They also showed that teachers' demograpgic factors, such as age, gender, years of experience do not affect the peception of HOTS. On the other hand, the age and English language level of the students affected the perception of HOTS. Moreover, the findings showed that there was no significant difference between the perceptions of teachers and students with regards to HOTS. This means that the teachers' perception of HOTS did not have an effect on students' perception.

Perceptions of HOTS

Teachers

According to the findings of the analysis, the means (M) of the questionnaire items ranged between 3.82 and 4.90 and the standard deviations (SD) range between 0.211 and 0.884 (see Appendix G).

The findings of the analysis revealed that the mean of teachers' perceptions is at a high level in all items of the scale towards infusing HOTs in classrooms.

Consequently, each item of the scale has a mean greater than 3.5. As it is shown, increasing the transferability of thinking skills is the most commonly used method among teachers for developing cognitive skills of students (M of item 14 :4.90). It was followed by developing reasoning and argumentation skills and tackling problems requiring alternative solutions (M: 4.65).

While the most commonly used method for developing students' thinking dispositions in the affective domain was promoting tolerance of other's beliefs. This means that teachers perceive and use pedagogical methods for instilling cognitive skills in students more than the pedagogical methods for developing students' thinking dispositions. In other words, teachers focused on developing the cognitive domain of the students more than affective domain (see table 5).

Table 5.

The Highest Mean and Standard Deviations for Teachers Scale's Items

Items	**M**	**SD**
14.New concepts should be taught in real-life context by using examples from everyday life.	4.90	0.211
24.Instilling critical thinking skills in students should be aimed at developing their respect for the ideas of others and encouraging cooperative behavior.	4.66	0.641
13.Developing HOT is important not only in teaching math and science, but in humanities as well.	4.65	0.678
7.We should work on problems which provide the opportunity for students to build their own ideas into the solution.	4.47	0.741
6.I teach my students to solve problems by using rigorous arguments and strong evidence.	4.26	0.771

Key: M: Mean SD: Standard Deviation

On the other hand, instilling HOTS in low achievement was the least used pedagogical method among teachers for developing cognitive skills of students (M: 3.82,

SD: 0.933). Then, it was followed by developing thinking creativity by encouraging divergent thinking (M:3.99, SD: 0.446).

Regarding developing the affective domain, involving students in a team - thinking process guided by the teachers was the least used method by teachers to develop students' thinking dispositions (M: 3.82, SD: 0.633). It is followed by encouraging pervasive thinking in students (M: 3.88, SD: 0.577) (see table 6). However, the teachers perceived the methods for developing cognitive domain and affective domain.

Table 6.

The Lowest Mean and Standard Deviations for Teachers Scale's Items

Items	**M**	**SD**
11. We should develop methods for instilling critical thinking in students with high academic achievements and in those with learning difficulties.	3.82	0.933
20.Teachers should guide and facilitate learning rather than control it.	3.82	0.633
16.Reflecting on the thinking process that led to the idea may confuse students and interfere with the accomplishment of a learning task.	3.88	0.577
8.The best way to solve problems is to demonstrate specific methods for solving each type of problem. Students may be confused when encountered by the problems that require alternative approaches.	3.99	0.446
1.Each task implementation should be preceded by reflection on action.	3.90	0.254

Key: M: Mean SD: Standard Deviation

To sum up, the mean of teachers' perceptions in all items of the scale is (M: 3.81, SD: 0.232). As a result, the teachers had positive and high perceptions regarding instilling HOTS in their classrooms**.** They were aware of the two domains of thinking

skills, namely congitive domain and affective domain. They also highly used the method of increasing the transferability of thinking skills to develop cognitive skills in students and they promote tolerance of other's beliefs to develop students' thinking disposition in the affective domain. The current findings were similar to a study conducted by Ardini (2017) who concluded that the teachers' perception was very good and the teachers fully support the application of HOTS. He added that the teachers were already familiar with HOTS and HOTS can positively increase the level of thinking of the students. Fakhomah and Utami (2019) also concluded that teachers had a high perception in infusing HOTS in the classrooms.

Students

According to the findings of the analysis, the means of the questionnaire items ranged between 3.64 and 4.81 and the standard deviations ranged between 0.211 and 0.884 (see Appendix H).

The findings of the analysis revealed that the mean of students' perceptions is at a high level in all items of the scale towards infusing HOTs in classrooms. As it is shown, the highest mean was self-directed learning as indicator of learning motivation, which is considered as one of the categories of students' affective domain (M : 4.86, SD:0.631). It is followed by learner's self-confidence (M:4.81).

On the other hand, formulating and solving problems was the most frequently used cognitive skill by students (M: 4. 48, SD: 0.740). The analysis of the results indicated that students highly understand cognitive skills and thinking dispositions (see table 7).

Table 7.

The Highest Mean and Standard Deviations for the Students Scale's Items

Items	M	SD
24.I have to learn more by myself, rather than relying on teachers and text-books	4.86	0.631
14.I am usually challenged by decision making processes because I am afraid of making mistakes.	4.81	0.221
13.The knowledge, which I accumulate through my studies, increase confidence in my abilities	4.75	0.378
22.I always look for the facts that confirm my arguments and disregard the facts that refute them	4.51	0.356
7.My solutions to problems are supported by rigorous arguments and strong evidence.	4.48	0.740

Key: M: Mean SD: Standard Deviation

Regarding the affective domain, the pervasiveness of HOTS and respect and tolerance of other's beliefs were the least used skills among students (M: 3.82, SD: 0.633) (M: 3.87, SD: 0.425) respectively. They were followed by attitude to teamwork (M: 3.89, 0.321) (see table 8). It seems that not frequently encouraging or using team thinking by teachers affected students' perception of preserving their attitudes to teamwork.

On the basis of these findings, students perceived the two domains of thinking skills, namely cognitive domain and affective domain. However, their perceptions of cognitive skills were higher than those for the perception of thinking dispositions. It can be suggested that teachers' perception of HOTS contributed to the development of the cognitive and dispositional domains of students' HOTS.

Table 8.

The Lowest Mean and Standard Deviations for the Students Scale's Items

Items	M	SD
1.Generally, the task implementation is preceded by reflection on action.	3.64	0.211
20.Teachers should guide and facilitate learning rather than control it.	3.82	0.633
15.When seeking solutions, I always consider the opinions of others even if they differ from mine	3.87	0.425
18.Working in a team facilitates problem solution	3.89	0.321
11.The thinking skills obtained in the classroom help me in daily life	3.92	0.933

Key: M: Mean SD: Standard Deviation

Consequently, each item of the scale has a mean greater than 3.5. To sum up, the mean of students' perceptions in all items of the scale is (M: 4.10, SD:0.542). As a result, the students have positive and high perceptions regarding the HOTs in classrooms. The students perceived the cognitive domian and affective domain. However, they understand the cogitive skills more than the thinking dispositions in the affective domain. This is because that teachers used pedagogical methods for developing cogitive skills of studetns more than the methods for developing students' thinking dispositions.

These findings were similar to the study of Syafryadin, et al. (2021) who concluded that students had a positive perception of HOTS since they think that infusing HOTS into classes will train their brain to think critically and creatively. Yoke et al. (2015) also found out that the students' perceptions toward HOTS were positive. Their findings also indicated that the students liked the given activities since they were creative and out-of-the-box. These findings were also in line with Jusnaeni (2020) who found out that the students had a positive perception of HOTS. He added that the implementation of HOTS by the teachers had a considerable influence on students' learning outcomes.

Teachers' Perception Regarding Age, Gender, Years of Experience

Age

A one way ANOVA was used to examine if there is a significant difference between the teachers' perceptions of HOTS according to their age or not. Table 9 shows that the age of teachers ranged from 23-29, 30-39 and more than 40 years.

Table 9.

One-way ANOVA of the Perceptions of Teachers Based on their Age.

Domains	N	M	SD	F	P	Explanation
23-29	9	3.80	0.232	0.069	0.086	p>0.05
30-39	4	4.46	0.225			Insignificant
More than 40 years	6	3.58	0.246			

Key: N:Number of teachers M: Mean SD: Standard Deviation F:F-Test P:Probablity value

The results showed that the teachers aged between 30 and 39 had a higher perception of HOTS than those who have more than 40 years (M: 4.46, SD: 0.225). On the other hand, the younger teachers aged between 23 and 29 had a lower perception of HOTS than those who are aged between 30 and 39 (M:3.80, SD:0.23). But,the findings indicated that there are no significant differences between the teachers' perceptions towards the HOTS according to their age. Therefore, $F(2: 17) = 0.069$ ($p > 0.05$). The findings revealed that there are no significant differences in teachers' perceptions towards HOTS according to their age. Therefore, the age of teachers does not seem to have a significant impact on how teachers perceive HOTS. This means that the age of the teachers did not significantly contribute to the teaching strategies of HOTS. This reflects the understanding that as the age of the teachers grows, the perection of HOTS does not grow.

Gender

The Independent Samples T-Test was used to identify if there is a significant difference between the teachers' perceptions toward HOTS according to their gender or not.Table 10 shows that the mean of perceptions of female teachers is (M :3.98, SD: 0.621), which is higher than the mean of perceptions of male teachers (M:3.55, SD :0.643).

Table 10.

Results of the Independent t-Test of Perceptions of Teachers according to their Gender

Dimension	N	M	SD	t-value	DF	P	Explanation
Male	5	3.55	0.643	1.313	17	0.777	p>0.05 Insignificant
Female	14	3.98	0.621				

* P is significant at the 0.05 level (2-tailed).

Key: N:Number of teachers M: Mean SD: Standard Deviation

DF:Degree of Freedom P:Probablity value

According to the findings, there is no significant differences in teachers' perceptions

towards HOTS according to their gender. It seems that gender of teachers does not affect teachers' perceptions toward HOTS. This means that the gender of the teachers did not significantly contribute to the teaching strategies of HOTS (p>0.05).This reflects the understanding that the gender difference among teachers do not contribute to perection of HOTS. The current findings finds similar to the study of Shukla and Dungsungnoen (2016), who found out that cognitive development domain and self-system domain had reported with equal application with minor difference in the gender.

Years of Experience

A one -way ANOVA was used to examine if there is a significant difference between the teachers' perceptions of HOTS according to their years of experience or not. Table 11 shows that the years of experience of teachers ranged from 3-9, 10-14, and 15-20.

Table 11.

One-way ANOVA of the Perceptions of Teachers Based on their Years of Experience.

Domains	N	M	SD	F	P	Explanation
3-9	11	3.90	0.623	0.896	0.429	p>0.05
10-14	5	4.05	0.566			Insignificant
15-20	3	3.44	0.851			

Key: N:Number of teachers M: Mean SD: Standard Deviation F: F-Test P:Probablity value

The results showed that the teachers who had experenice between 3 and 9 had a higher perception of HOTS than those who had experience between 15 and 20 (M: 3.90, SD: 0.623). On the other hand, the teachers who had experience between 15 and 20 had a lower perception of HOTS than those who had experience between 10 and 14 (M:3.44, SD:0.851). The findings indicated that there are no significant differences between the teachers' perceptions towards the HOTS according to their years of experience. Therefore, F (2:17) = 0.896 (p > 0.05). Therefore, the years of experience of teachers do not seem to have a significant impact on how teachers perceive HOTS. This means that the years of experience of the teachers did not significantly contribute to the teaching strategies of HOTS (p >0.05). This reflects the understanding that as the years of experience grow, the perception of HOTS do not grow. Fakhomah and Utami (2019) concluded in their study that demographic information, namely age, gender, and years of experience did not affect the perception of teachers towards HOTS. These findings were similar to the study of Tyas et al. (2019) who concluded that demographic factors, including age, gender, and year of teaching experience had nothing to do with the perception of HOTS by EFL teachers. In line with this study, Gozali et al. (2021) revealed that there is no significant difference between acquiring HOTS among teachers and years of experience. Tyas et al. (2019) also discovered that demographic factors, including age, gender, and years of experience did not bring significant differences on teachers' perception of HOTS. These findings are dissimilar to Syafryadin, et al. (2021) study, who declared that students should perceive HOTS. Their study investigated the students' perception toward HOTS in speaking class and the obstacles that faced to

them. The results revealed that students find it difficult to implement HOTS, especially for evaluating and creating. This means that they are not able to make judgments and suggestions. However, students had a positive perception of HOTS since they think that infusing HOTS into classes will train their brain to think critically and creatively.

Students' Perceptions Regarding Age, Gender, and English Language Level

Age

A one -way ANOVA was used to examine if there is a significant difference among the students' perceptions of HOTS according to their age or not**.** Table 12 shows that the age of students ranged from 18, 19, and more than 20 years.

Table 12.

One-Way ANOVA of the Perceptions of Students Based on their Age.

Domains	N	M	SD	F	P	Explanation
18	33	4.61	0.332	0.029	0.046*	P<0.05
19	17	3.64	0.425			Significant
More than 20 years	10	3.58	0.346			

Key: N:Number of students M: Mean SD: Standard Deviation F: F-value

P: Probablity value

The findings indicated that there are significant differences between the students' perceptions towards the incorporation of HOTS according to their age. Therefore, F (2:58) = 0.029 ($p < 0.05$). This means that the age of the students significantly contributed to the teaching strategies of HOTS. As it is shown in the table, the students aged 18 showed a higher perception of cognitive skills and thinking dispositions skills (M: 4.61, S: 0.332). While the students aged more than 20 showed a lower perception of HOTS (M:3.58, SD:0.346).

Therefore, the age of students seems to have a significant impact on how students perceive HOTS.

Gender

The Independent Samples T-Test was used to identify if there is a significant difference between the students' perceptions towards HOTS according to their gender or not.Table 13 shows that the mean of perceptions of male students is (M:3.65, SD :0.623), which is higher than the mean of perceptions of female studetns (M :3.58, SD : 0.521).

Table 13.

Results of the Independent t-Test of Perceptions of Students According to their Gender

Dimension	N	M	SD	t-value	DF	P	Explanation
Male	38	3.65	0.623	1.213	58	0.637	p>0.05 Insignificant
Female	22	3.58	0.521				

* P is significant at the 0.05 level (2-tailed).

Key: N:Number of students M: Mean SD: Standard Deviation DF: Degree of Freedom P: Probablity value

According to the findings, there is no significant differences in students' perceptions

towards HOTS according to their gender. It seems that gender of students did not affect students' perceptions towards HOTS. This means that the gender of the students did not significantly contribute to the teaching strategies of HOTS. This reflects the understanding that the gender difference among students do not contribute to perection of cognitive skills and disposition skills. This is dissimlar to study Shukla and Dungsungnoen (2016), who found out that only four skills out of fourteen skills, namely Problem Solving, Information Processing Standards, Error Analysis, and Effective communcation had shown gender differenc in students. While the other HOTS did not show any gender differnce in students, including comparison, classification, abstracting, analysing, problem solving, and induction. They concluded that boys have been rated with slightly high with girls.

English Language Level

A one-way ANOVA was used to examine if there is a significant difference between the students' perceptions of HOTS according to their English language level or not. Table 14 shows that the English language level of students ranged from poor, averege and excellent.

Table 14.

One-Way ANOVA of the Perceptions of Students Based on their English Language Level.

Domains	N	M	SD	F	P	Explanation
Poor	8	3.80	0.823	0.606	0.032*	P<0.05
Averege	39	4.05	0.706			Significant
Excellent	13	4.54	0.551			

Key: N:Number of students M: Mean SD: Standard Deviation F: F-value P: Probablity value

The findings indicated that there are significant differences among the students' perceptions towards HOTS according to their English language level. Therefore, F (2: 58) = 0.606 ($p < 0.05$). As it is shown, the English language level of students seems to have a significant impact on how students perceive HOTS in favor of those who have an excellent level in English language. The students who have an Excellent English language level (M:4.54, SD:0.551) perceived cogitive skills and thinking dispositions more than the stuents who have a poor English language level (M: 3.80, SD:0.823).This means that the English Language level of of the students significantly contributed to the teaching strategies of HOTS. This reflects the understanding that as the English language level grows, the perection of HOTS also grows. This is in line with Ilhawani (2021) who concluded that low ability of students in English is the main obstacle to implement HOTS in the classrooms. Dima et al. (2021) also found out that the implementation of HOTS had not been effective yet due to some obstacles, which include students' low English proficiency.

Comparison of Perceptions between Teachers and Students

The Independent Samples T-Test was used to identify if there is a significant difference between the teachers' perceptions and students' perceptions toward HOTS or not .Table 15 shows the mean of perceptions of teachers (M: 3.81, SD:0.232) and the mean of perceptions of students (M:4.10, SD: 0.542).

Table 15.

Results of the Independent T-Test of Perceptions of Students and Teachers

Dimension	N	M	SD	t-value	DF	P	Explanation
teachers' perceptions	19	3.81	0.232	1.213	77	0.067	P >0.05 Insignificant
students' perceptions	60	4.10	0.542				

* P is significant at the 0.05 level (2-tailed).

Key: N:Number of students M: Mean SD: Standard Deviation DF: Degree of Freedom P: Probablity value

According to the findings, there are no significant differences between the perceptions of teachers and students . It seems that the perceptions of teachers do not affect the perceptions of students towards HOTS. This suggests that teachers' perception of HOTS do not significantly contributed to the improvement of students' perception of their cognitive skills and thinking dispositions. However, experts claimed that the right perception of HOTS that the teacher has will lead to the right practice as well as will contribute to students' HOTS development (Tyas, et al., 2020).

In this chapter, data obtained through the questionnaire was analyzed statistically. The findings revealed that teachers and students have positive and high perceptions regarding HOTS in classrooms. They also showed that teachers' demograpgic factors, such as age, gender, years of experience did not affect the peception of HOTS. On the other hand, the age and English language level of the students affected the perception of HOTS. Moreover, the findings showed that there was no significant difference between the perceptions of teachers and students with regards to HOTS. This means that the teachers' perception of HOTS did not affect students'

perception. The following chapter will present the conclusion of the data analysis, practical implications for education and recommendations for further research.

CHAPTER VI

Conclusion and Recommendations

Introduction

This chapter draws a brief synopsis of the current study which intended to explore the perception of HOTS in EFL classes. It also intended to find if there is any significant difference between the age, the gender, and the English language level of the students and their perception of HOTS. Moreover, it intended to discover the relation between age, gender, years of experience of teachers and their perception of HOTS. Some suggestions for further research are also presented in this chapter.

Summary of the Findings

The study was aimed to find out the perception of HOTS among teachers and students. Nineteen teachers and 60 students from the English Foreign Language Department at one of the top private universities in Istanbul participated in the study. To answer the research questions, questionaries were used. The findings demonstrated that teachers and students have positive and high perceptions regarding HOTS in classrooms. Based on the research findinds, it can be concluded that EFL teahers implemented HOTS in teaching English. In addition to that, the teachers perceived well the teaching methods that promote HOTs.

They also showed that teachers' demograpgic factors, such as age, gender, years of experience did not affect the peception of HOTS. The demographic factors, including age, gender, and years of experience did not bring significant differences on teachers' perceptions of HOTS. Indeed, teachers with different demographic factors still had the same perceptions (Tyas, et al., 2019).

On the other hand, the age and English language level of the students affected the perception of HOTS. Moreover, the findings showed that there was no significant difference between the perceptions of teachers and students with regards to HOTS. This means that the teachers' perception of HOTS did not have an effect on students' perception.

To sum up, this research discovered the perceptions of teachers and students towards HOTS and the connection between demographic factors and students' and teachers 'perception.

Recommendation

The recommendations are presented for English teachers, principals, and the future researchers. For English teachers, the teachers should be innovative and be able to plan different activities in implementing HOTS. Moreover, the teachers should promote Information and Computer technology (ICT) in presenting the teaching process so that the learning activities will be more enjoyable. Besides, the teachers should motivate students to use critical thinking and creative skills. Furthermore, the teachers should give extra time or additional classes for students who cannot maximize in applying HOTS, especially the affective domain.

For the principals, the principals should hold more workshops about the implementation of HOTS especially in teaching English. Furthermore, the principals should do evaluation with the English teachers regularly.

Finally, for future researchers, this study is considered as a reference for other researchers who have the exact interest in the field of study. Moreover, further research could identify other factors, including the motivation of the students, purpose of teaching, the learning style, and the methods of teaching applied. Furthermore, further research may be conducted on poor English language level students after teaching them applying HOTS to investigate whether explicit teaching of HOTS will improve their thinking skills. In addition to that, further studies may involve a replication of the study on a larger number of participants through various educational levels at the same institution.

Implications for Further Study

Since this study was based on students' needs, many implications are suggested for EFL students and teachers. First, the results indicated that poor English language level of the students showed inconsequential of HOTS compared to excellent English language level. Poor English language level might not be conscious of using all domains

of thinking skills, including cognitive domain and affective domain. Therefore, EFL students should be explicitly taught how to use various domains of thinking skills. They should be aware of the appropriate and effective methods that fit their needs in terms of improving their cognitive skills and thinking dispositions skills. In addition to that, they should be made aware of how to raise autonomous learning regardless of the teaching methodologies used by their lectures.

Second, teachers should be encouraged to be more aware of the domains of HOTS, especially the affective domain. If they are trained enough in this regard and in encouraging students to improve them, that will enable them to assist their students in improving their thinking skills, leading to improving their performance in EFL classes. Implementing HOTS is essential since they help the students to think creatively and critically (Singh & Marappan, 2020). If the teachers are aware of their students' needs, they will be able to select the appropriate methodologies that fit their students' needs to overcome the difficulties that may face in applying HOTS. Since the excellent English language level students were be found to use cognitive skills and thinking disposition skills, teachers should be able to identify the appropriate strategies to improve their English language level and encourage them to use the less frequently used ones too. Furthermore, teachers could assess their own learning strategies that may reflect on their teaching methodologies.

Conclusion

The current study investigated the use of HOTS in EFL classes. The findings and recommendations are targeting to achieve better learning and teaching in EFL classes. It is hoped that by understanding students' interests, teachers will develop their methodologies for better outcomes. This chapter represented the conclusions and recommendations of this study.

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APPENDIX A

A Consent Form

Investigating the Use of Higher- Order Thinking Skills in EFL Classes

Participant Information Sheet and Informed Consent Form

Dear Participant,

You are asked to participate in a research study that we are carrying out in order to explore using HOTs inside EFL classes and know to what extent HOTs are used in EFL classes. It also aims at exploring the strategies that are used by teachers for instilling HOTS in classes. The data collected through this study will be used to understand if students and teachers can apply HOTS in their classes or not. If you agree to participate, we will ask you to fill out the questionnaire. The questionnaire consists of 25 questions about your attitudes towards using HOTS in classes. All questionnaires will be transcribed by anonymizing any identifying information.

Please note that your participation in the study is voluntary and once you fill in the questionnaire, you will be considered as having accepted our invitation to participate. The data that you provide will be kept confidential and will be anonymously used in the analysis. They will not be traced back to you in any way. In case you have any questions or concerns, please contact us using the information below.

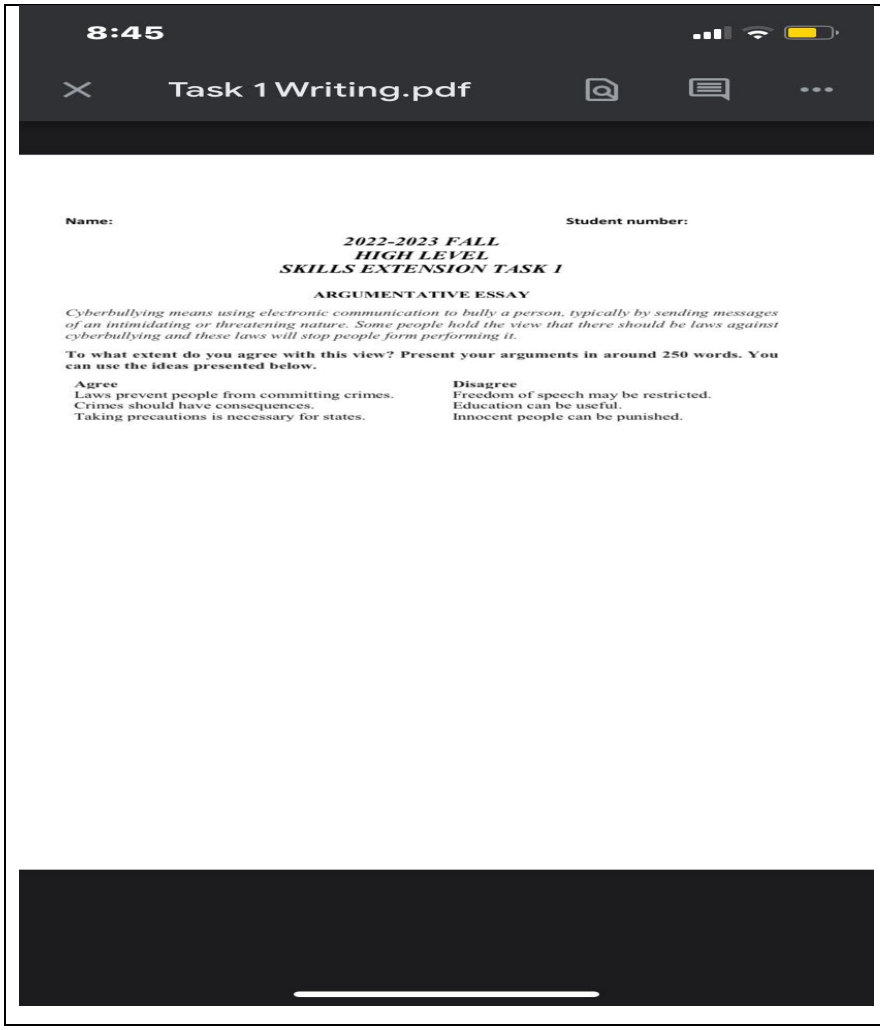
Researchers Name: Reham Baroud

English Language Teaching Department, Near East University

Tel: +905428740838
E-mail: rehambaroud@gmail.com
Supervisor : Assoc. Prof. Dr. Hanife Bensen Bostancı

APPENDIX B

Skills Extension Tasks



Name: Student number:

2022-2023 FALL
HIGH LEVEL
SKILL EXTENSION 1

READING 1

Cyberbullying

1 Cyberbullying is defined as the electronic posting of mean-spirited messages about a person (such as a student) often done anonymously. Most of the investigations of cyberbullying have been conducted with students in elementary, middle and high school who were between 9 and 18 years old. Those studies focused on examining the prevalence and frequency of cyberbullying. However, it is present in higher education and it is important to examine the frequency and media used to perpetrate cyberbullying, as well as the relationship that **it** has with the academic, social and emotional development of undergraduate students.

Consequences of cyberbullying

2 The literature suggests that cyberbullied victims generally manifest psychological problems such as depression, loneliness, low self-esteem, school phobias and social anxiety. Moreover, research findings have shown that cyberbullying causes emotional and physiological damage to defenceless victims as well as psychosocial difficulties including behaviour problems, drinking alcohol, smoking, depression, and low commitment to academics.

3 Under great emotional stress, victims of cyberbullying are unable to concentrate on their studies, and thus their academic progress is adversely affected. Since the victims are often hurt psychologically, the depressive effect of cyberbullying prevents students from excelling in their studies. The overall presence of cyberbullying victimization among undergraduate college students was found to be significantly related to the experience of anxiety, depression, substance abuse, low self-esteem, interpersonal problems, family tensions and academic underperformance.

Media

4 The most frequent and common media within **which** cyberbullying can occur are: electronic mail, instant messaging, chat rooms, text messaging, social networking sites, and web sites. Studies indicate that undergraduate students are cyberbullied most frequently through email, and least often in chat rooms. Other studies suggest that instant messaging is the most common electronic medium used to perpetrate cyberbullying.

Types of cyberbullying

5 Watts et al. (2017) describe 7 types of cyberbullying: flaming, online harassment, cyberstalking, denigration, masquerading, trickery and outing, and exclusion. Flaming involves sending angry, rude, or vulgar messages via text or email about a person either to that person privately or to an online group. Harassment involves repeatedly sending offensive messages, and cyberstalking moves harassment online, with the offender sending threatening messages to his or her victim. Denigration occurs when the cyberbully sends untrue or hurtful messages about a person to others. Masquerading takes elements of harassment and denigration where the cyberbully pretends to be someone else and sends or posts threatening or harmful information about one person to other people. Trickery and outing occur when the cyberbully tricks an individual into providing embarrassing, private, or sensitive information and posts or sends the information for others to view. Exclusion is deliberately leaving individuals out of an online group, thereby automatically stigmatizing the excluded individuals.

6 Finally, students have exhibited clear preferences towards using the Internet as a medium and utilize it with great frequency in their everyday lives. As more and more aspects of students' lives are conducted online, and with the knowledge that excessive use may have consequences for them, it is important to study the phenomenon of cyberbullying more deeply.

Answer the questions according to the reading text. The answers are in the same order as they appear in the text. Do not paraphrase or change the word form for the answers; just copy the answers directly from the text. Your answers should be short and precise.

QUESTIONS

1. Typically, victims of cyberbullying have psychological issues including **depression, loneliness, low self-esteem, school phobias and social anxiety**.
2. Various addictions, depression, or little dedication to studying are examples of **psychosocial difficulties** experienced by helpless victims.
3. Students are prevented from achieving in their studies due to the **the depressive effect** of cyberbullying.
4. The most popular [redacted] **tant messaging**.

APPENDIX C

Course Syllabus

ISTINYE UNIVERSITY
FOREIGN LANGUAGES DEPARTMENT
2022-2023 ACADEMIC YEAR FALL TERM
ENGLISH PREPATORY PROGRAM
PROFICIENCY LEVEL COURSE SYLLABUS

LEVEL	SECTION	WEEKLY CLASS HOURS	COURSE MATERIALS	ADVISOR
PROFICIENCY LEVEL	Time	20	-Unlock RW 5 -Unlock LS 5 -Grammar & Beyond 4 -Skills Extension Day -Academic Writing Pack -Unique Materials -Achieve 3000	Office hours
DATE			CONTENT	
September, 26th - 30th		Monday	Students' Orientation Day	
		Tuesday	First Day Meet & Greet	
		Wednesday	Unlock LS Unit 1	
		Thursday	Grammar & Beyond Unit 1 & 2	
		Friday	Academic Writing Pack Part 1	
October, 3rd – 7th		Monday	No class	
		Tuesday	Unlock RW Unit 1	
		Wednesday	Unlock LS Unit 1	
		Thursday	Grammar & Beyond Unit 2 & 3	
		Friday	Academic Writing Pack Part 1	
October, 10th – 14th		Monday	No class	
		Tuesday	Unlock RW Unit 1	
		Wednesday	Unlock LS Unit 2	
		Thursday	Grammar & Beyond Unit 4 & 5	
		Friday	Academic Writing Pack Part 1	
October, 17th – 21st		Monday	No class	
		Tuesday	Unlock RW Unit 2	
		Wednesday	Unlock LS Unit 2	
		Thursday	Grammar & Beyond Unit 5 & 6	
		Friday	Academic Writing Pack Part 2+ Skills Extension	
October, 24th – 28th		Monday	No class	
		Tuesday	Unlock RW Unit 2	
		Wednesday	Unlock LS Unit 3	
		Thursday	Grammar & Beyond Unit 7 & 8	
		Friday	Academic Writing Pack Part 2 + Skills Extension	
October, 31st – November, 4th		Monday	No class	
		Tuesday	Unlock RW Unit 3	
		Wednesday	Unlock LS Unit 3	
		Thursday	Grammar & Beyond Unit 8 & 9	
		Friday	Academic Writing Pack Part 2 + Skills Extension	
November, 7th – 11th		Monday	No class	
		Tuesday	Unlock RW Unit 3	
		Wednesday	Unlock LS Unit 4	
		Thursday	Grammar & Beyond Unit 10 & 11	
		Friday	Academic Writing Pack Part 2 + Skills Extension	
		Monday	**NO CLASS**	
		Tuesday	Unlock RW Unit 4	
		Wednesday	**QUARTER I**	
November, 14th - 18th		Thursday	Grammar & Beyond Unit 11 & 12	
		Friday	Academic Writing Pack Part 2 + Skills Extension	
November, 21st – 24th		Monday	No class	
		Tuesday	Unlock RW Unit 4	
		Wednesday	Unlock LS Unit 4	
		Thursday	Grammar & Beyond Unit 13 & 14	
		Friday	Academic Writing Pack Part 2 + Skills Extension	
November, 28th – December, 2nd		Monday	No class	
		Tuesday	Unlock RW Unit 5	
		Wednesday	Unlock LS Unit 5	
		Thursday	Grammar & Beyond Unit 14 & 15	
		Friday	Academic Writing Pack Part 2 + Skills Extension	
December, 5th – 9th		Monday	No class	
		Tuesday	Unlock RW Unit 5	
		Wednesday	Unlock LS Unit 5	
		Thursday	Grammar & Beyond Unit 16 & 17	
		Friday	Academic Writing Pack Part 2 + Skills Extension	
December, 12th – 16th		Monday	No class	
		Tuesday	Unlock RW Unit 6	
		Wednesday	Unlock LS Unit 6	
		Thursday	Grammar & Beyond Unit 17 & 18	
		Friday	Academic Writing Pack Part 2 + Skills Extension	
December, 19th – 23rd		Monday	No class	
		Tuesday	Unlock RW Unit 6	
		Wednesday	Unlock LS Unit 6	
		Thursday	Grammar & Beyond Unit 19 & 20	
		Friday	Academic Writing Pack Part 2 + Skills Extension	
December, 26th – 30th		Monday	No class	
		Tuesday	Unlock RW Unit 7	
		Wednesday	Unlock LS Unit 7	
		Thursday	Grammar & Beyond Unit 20	
		Friday	Unlock RW Unit 7	

	Friday	Academic Writing Pack Part 2 + Skills Extension
December, 26th – 30th	Monday	No class
	Tuesday	Unlock RW Unit 7
	Wednesday	Unlock LS Unit 7
	Thursday	Grammar & Beyond Unit 20
	Friday	Unlock RW Unit 7
January, 2nd- 6th	**Monday**	**NO CLASS**
	Tuesday	**NO CLASS**
	Wednesday	**QUARTER II**
	Thursday	**NO CLASS**
	Friday	**LEVEL ACHIEVEMENT TEST (LAT)**
January, 10th	**Tuesday**	**ISTEP JANUARY**

COURSE REQUIREMENTS

Exams	Quarter Exams		25% (12,5 Each)	50%
	LAT		25%	
	Alternative Assessment	Skills Extension (Writing) Tasks	20%	50%
		Vocabulary Tasks	10%	
		Online Assignments	10%	
		Class participation	10%	

	Attendance	Absence in more than 25% of classes results in **level repeat.** **NOTE:** **Medical excuses, health reports**, family issues or part-time jobs **are not accepted** as an excuse for absence. *For serious chronic diseases and death of a parent or sibling, please see the department management.
Level Achievement	**Passing Grade** • You need to take an average of **70** from the exams and alternative assessment to have an eligibility to take ISTEP. • Level passing grade is **70.** • A grade below 70 in LAT will result in ***level repeat.***	

ISTINYE UNIVERSITY
FOREIGN LANGUAGES DEPARTMENT
2022-2023 ACADEMIC YEAR FALL TERM
ENGLISH PREPATORY PROGRAM
HIGH LEVEL COURSE SYLLABUS

LEVEL	SECTION	WEEKLY CLASS HOURS	COURSE MATERIALS	ADVISOR
HIGH LEVEL	Time	20	-Unlock RW 4 -Unlock LS 4 -Grammar & Beyond 3 -Skills Extension Day -Academic Writing Pack -Unique Materials -Achieve 3000	Office hours

DATE		CONTENT
September, 26th - 30th	Monday	Students' Orientation Day
	Tuesday	First Day Meet & Greet
	Wednesday	Unlock LS Unit 1
	Thursday	Grammar & Beyond Unit 1 & 2
	Friday	Academic Writing Pack Part 1
October, 3rd – 7th	Monday	No class
	Tuesday	Unlock RW Unit 1
	Wednesday	Unlock LS Unit 1
	Thursday	Grammar & Beyond Unit 3 & 4
	Friday	Academic Writing Pack Part 1
October, 10th – 14th	Monday	No class
	Tuesday	Unlock RW Unit 1
	Wednesday	Unlock LS Unit 2
	Thursday	Grammar & Beyond Unit 5 & 6
	Friday	Academic Writing Pack Part 1
October, 17th – 21st	Monday	No class
	Tuesday	Unlock RW Unit 2
	Wednesday	Unlock LS Unit 2
	Thursday	Grammar & Beyond Unit 6 & 7
	Friday	Academic Writing Pack Part 2 + Skills Extension
October, 24th – 28th	Monday	No class
	Tuesday	Unlock RW Unit 2
	Wednesday	Unlock LS Unit 3
	Thursday	Grammar & Beyond Unit 8 & 12
	Friday	Academic Writing Pack Part 2 + Skills Extension
October, 31st – November, 4th	Monday	No class
	Tuesday	Unlock RW Unit 3
	Wednesday	Unlock LS Unit 3
	Thursday	Grammar & Beyond Unit 12 & 13
	Friday	Academic Writing Pack Part 2 + Skills Extension
November, 7th – 11th	Monday	No class
	Tuesday	Unlock RW Unit 3
	Wednesday	Unlock LS Unit 4
	Thursday	Grammar & Beyond Unit 15 & 16
	Friday	Academic Writing Pack Part 2 + Skills Extension
	Monday	**NO CLASS**
	Tuesday	Unlock RW Unit 4
	Wednesday	**QUARTER I**

November, 14th - 18th	Thursday	Grammar & Beyond Unit 16 & 17
	Friday	Academic Writing Pack Part 2 + Skills Extension
November, 21st – 24th	Monday	No class
	Tuesday	Unlock RW Unit 4
	Wednesday	Unlock LS Unit 4
	Thursday	Grammar & Beyond Unit 18 & 19
	Friday	Academic Writing Pack Part 2 + Skills Extension
November, 28th – December, 2nd	Monday	No class
	Tuesday	Unlock RW Unit 5
	Wednesday	Unlock LS Unit 5
	Thursday	Grammar & Beyond Unit 19 & 20
	Friday	Academic Writing Pack Part 2 + Skills Extension
December, 5th – 9th	Monday	No class
	Tuesday	Unlock RW Unit 5
	Wednesday	Unlock LS Unit 5
	Thursday	Grammar & Beyond Unit 21 & 22
	Friday	Academic Writing Pack Part 2 + Skills Extension
December, 12th – 16th	Monday	No class
	Tuesday	Unlock RW Unit 6
	Wednesday	Unlock LS Unit 6
	Thursday	Grammar & Beyond Unit 22 & 23
	Friday	Academic Writing Pack Part 2 + Skills Extension
December, 19th – 23rd	Monday	No class
	Tuesday	Unlock RW Unit 6
	Wednesday	Unlock LS Unit 6
	Thursday	Grammar & Beyond Unit 24 & 25
	Friday	Academic Writing Pack Part 2 + Skills Extension
December, 26th – 30th	Monday	No class
	Tuesday	Unlock RW Unit 7
	Wednesday	Unlock LS Unit 7
	Thursday	Grammar & Beyond Unit 25 & 26

	Friday	Academic Writing Pack Part 2 + Skills Extension
December, 26th – 30th	Monday	No class
	Tuesday	Unlock RW Unit 7
	Wednesday	Unlock LS Unit 7
	Thursday	Grammar & Beyond Unit 25 & 26
	Friday	Grammar & Beyond Unit 27 & 28
January, 2nd- 6th	Monday	**NO CLASS**
	Tuesday	**NO CLASS**
	Wednesday	**QUARTER II**
	Thursday	**NO CLASS**
	Friday	**LEVEL ACHIEVEMENT TEST (LAT)**
January, 10th	**Tuesday**	**ISTEP JANUARY**

COURSE REQUIREMENTS

Exams	Quarter Exams		25% (12,5 Each)	50%
	LAT		25%	
	Alternative Assessment	Skills Extension (Writing) Tasks	20%	50%
		Vocabulary Tasks	10%	
		Online Assignments	10%	
		Class participation	10%	

	Attendance	Absence in more than 25% of classes results in **level repeat.** **NOTE:** **Medical excuses, health reports**, family issues or part-time jobs **are not accepted** as an excuse for absence. *For serious chronic diseases and death of a parent or sibling, please see the department management.
Level Achievement	**Passing Grade** • You need to take an average of **70** from the exams and alternative assessment to have an eligibility to take ISTEP. • Level passing grade is **70.** • A grade below 70 in LAT will result in ***level repeat.***	

APPENDIX D

Students' Questionnaire

Investigating the Use of Higher Order Thinking Skills in EFL classes

Part 1

A. The questionnaire for students

Dear student,

These questionnaires were composed in order to examine your thinking skills used for accomplishing learning tasks and in everyday life, your motivation, teacher's attitude toward your learning methods, and satisfaction with your schooling. Please respond to the statements in the questionnaire to the best of your ability.

The information collected through this enquiry will be used for the purposes of this study aimed at understanding your attitudes towards HOTS. The privacy of each participant will be respected. All questionnaires will be coded to ensure the anonymity of each participant. Completed questionnaires will be kept in a locked place accessible only to the researcher.

Thank you in advance for your cooperation.

Part 1: Please indicate your opinion on the statements listed in the tables by ticking a number according to the scale provided:

1 – Strongly disagree. 2 – Disagree. 3 – Somewhat disagree. 4 – Somewhat agree. 5 – Agree. 6 – Strongly agree.

Section 1. Demographic Information

Personal Information

Please provide information by completing the blanks:

What is your gender? Male Female

Age: …….

English Language Level: ( ) Excellent ( ) Average ( )Poor

Section 2. Questionnaire items

Item	To which extent you agree or disagree with the following statements?	1	2	3	4	5	6
1-	Generally, the task implementation is preceded by reflection on action.						
2-	Before task implementation, I outline a program of action and test it during the implementation.						
3-	At the successful/unsuccessful completion of the task, I seek to analyze the process I have passed, in order to succeed in future tasks						
4-	When working on a task, I rarely stop to test whether I do it right or wrong.						
5-	I try to analyze the forces that led to my decision (whether I was guided by logic or emotional forces or both).						
6-	When encountered by a problem, I analyze it and formulate possible solutions in order to find the best one						
7-	My solutions to problems are supported by rigorous arguments and strong evidence.						
8-	When encountered by a problem that requires multiple solutions, I feel confused. I prefer the single, well-established answer to a problem.						
9-	While preparing to accomplish a task, I analyze my past experiences, both failures and achievements, and seek to use the knowledge gained through the accomplishment of previous tasks.						

10-	The thinking skills obtained in the classroom help me to understand connection between prior knowledge and the new information.						
11-	The thinking skills obtained in the classroom help me in daily life						
12-	Every learning experiment helps me to be a more independent learner.						
13-	The knowledge, which I accumulate through my studies, increase confidence in my abilities						
14-	I am usually challenged by decision making processes because I am afraid of making mistakes.						
15-	When seeking solutions, I always consider the opinions of others even if they differ from mine						
16-	When accomplishing a task, I am completely focused on achieving my goal and do not consider the opinions of others. I rely only on myself						
17-	By working on a problem in a team I become a more independent thinker						
18-	Working in a team facilitates problem solution						
19-	If a team-member offers an alternative problem solution, it confuses me. I need a single solution to a problem.						
20-	I do not make assumptions and draw conclusions until I understand things deeply.						
21-	I value the results more than the thinking process leading to them						
22-	I always look for the facts that confirm my arguments and disregard the facts that refute them						
23-	I have to work more in order to perfect my thinking skills regardless of the challenges encountered						
24-	I have to learn more by myself, rather than relying on teachers and text-books						

25-	The feelings of satisfaction and joy, which result from successful task accomplishments, stimulate my motivation for further actions.						
26-	My thinking skills should help me become a responsible member of my school and community						

APPENDIX E

Teachers' Questionnaire

Investigating the Use of Higher Order Thinking Skills in EFL classes

Part 2

B. The questionnaire for teachers

This questionnaire is designed to investigate the teachers' perception on HOTS and the effects of using HOTS in your pedagogical practices. Please respond to the statements in the questionnaire to the best of your ability. The information collected through this enquiry will be used for the purposes of this study. The privacy of each participant will be respected. All questionnaires will be coded so as to ensure the anonymity of each participant. Completed questionnaires will be kept in a locked place accessible only to the researcher.

Please indicate your opinion on the statements listed in the tables by ticking a number according to the scale provided below.

1 – Strongly disagree. 2 – Disagree. 3 – Somewhat disagree. 4 – Somewhat agree. 5 – Agree. 6 – Strongly agree.

Section 1. Demographic Information

Personal Information

Please provide information by completing the blanks:

What is your gender? ☐ Male ☐ Female

Age: …….

Years of experience: ……

Section 2. Questionnaire items

Item	To which extent you agree or disagree with the following statements?	1	2	3	4	5	6
1-	Each task implementation should be preceded by reflection on action.						
2-	Before task implementation, I recommend to outline a programme of action and test it during the implementation.						
3--	At the end of a task, I recommend to students to reflect on the thinking methods and strategies employed						
4-	I help my students to analyze the forces that led them in their thinking process (whether they were guided by logic or emotional forces or both).						
5-	When we have a problem at hand, I teach students to solve it systematically (formulating goals, generating and evaluating solutions)						
6-	I teach my students to solve problems by using rigorous arguments and strong evidence						
7-	We should work on problems which provide the opportunity for students to build their own ideas into the solution.						
8-	The best way to solve problems is to demonstrate specific methods for solving each type of problem. Students may be confused when encountered by the problems that require alternative approaches.						
9-	I am prepared to stop the preplanned sequence of instruction in order to coach students' thinking.						
10-	I see curriculum and subject matter are at the center of instruction. Engaging students into probing subject matter creates ambiguity which interferes with instruction.						
11-	We should develop methods for instilling critical thinking in students with high academic achievements and in those with learning difficulties.						

12-	Teaching HOT is appropriate for students with high academic achievements; it is inappropriate for weak students.						
13-	Developing HOT is important not only in teaching math and science, but in humanities as well.						
14-	New concepts should be taught in real-life context by using examples from everyday life.						
15-	I recommend my students to understand things deeply before they make assumptions and draw conclusions.						
16-	Reflecting on the thinking process that led to the idea may confuse students and interfere with the accomplishment of a learning task.						
17-	I encourage team-thinking activities focused on the students' personal thoughts rather than definitive knowledge.						
18-	I believe that students learn better when they are engaged in participation. Team brainstorming makes them more independent thinkers.						
19-	Engagement of students in a team-thinking process interferes with the normal sequence of instruction.						
20-	Teachers should guide and facilitate learning rather than control it.						
21-	The key role of teachers is to transmit knowledge to students and prepare them for matriculation exams.						
22-	By developing students' thinking skills, we make them more independent learners.						
23-	The feelings of satisfaction and joy, which result from successful task accomplishments, stimulate the student motivation for further actions.						

24-	Instilling critical thinking skills in students should be aimed at developing their respect for the ideas of others and encouraging cooperative behavior.						
25-	By developing HOTS in students, we should educate them as socially and ethically responsible members of the community.						

Investigating the Use of Higher Order Thinking Skills in EFL classes

Part 1

A. The questionnaire for students

Dear student,

These questionnaires were composed in order to examine your thinking skills used for accomplishing learning tasks and in everyday life, your motivation, teacher's attitude toward your learning methods, and satisfaction with your schooling. Please respond to the statements in the questionnaire to the best of your ability. In addition, you are required to provide short written examples for some of the statements listed in the tables below.

The information collected through this enquiry will be used for the purposes of this study aimed at understanding your attitudes towards HOTS. The privacy of each participant will be respected. All questionnaires will be coded to ensure the anonymity of each participant. Completed questionnaires will be kept in a locked place accessible only to the researcher.

Thank you in advance for your cooperation.

Part 1: Please indicate your opinion on the statements listed in the tables by ticking a number according to the scale provided:

1 – Strongly disagree. 2 – Disagree. 3 – Somewhat disagree. 4 – Somewhat agree. 5 – Agree. 6 – Strongly agree.

Section 1. Demographic Information

Personal Information

Please provide information by completing the blanks.

What is your gender? ☑ Male ☐ Female

Age: 20

Study year 2022 – 2023

English Language level (✓) Excellent ( ) Average ( ) Poor

Section 2. Questionnaire items

Item	To which extent you agree or disagree with the following statements?	1	2	3	4	5	6
1-	Generally, the task implementation is preceded by reflection on action.						✓
2-	Before task implementation, I outline a program of action and test it during the implementation.				✓		
3-	At the successful/unsuccessful completion of the task, I seek to analyze the process I have passed, in order to succeed in future tasks					✓	
4-	When working on a task, I rarely stop to test whether I do it right or wrong.			✓			
5-	I try to analyze the forces that led to my decision (whether I was guided by logic or emotional forces or both).				✓		
6-	When encountered by a problem, I analyze it and formulate possible solutions in order to find the best one						✓
7-	My solutions to problems are supported by rigorous arguments and strong evidence.						✓
8-	When encountered by a problem that requires multiple solutions, I feel confused. I prefer the single, well-established answer to a problem.					✓	
9-	While preparing to accomplish a task, I analyze my past experiences, both failures and achievements, and seek to use the knowledge gained through the accomplishment of previous tasks.						✓
10-	The thinking skills obtained in the classroom help me to understand connection between prior knowledge and the new information.					✓	
11-	The thinking skills obtained in the classroom help me in daily life				✓		
12-	Every learning experiment helps me to be a more independent learner.						✓
13-	The knowledge, which I accumulate through my studies, increase confidence in my abilities						✓
14-	I am usually challenged by decision making processes because I am afraid of making mistakes.					✓	
15-	When seeking solutions, I always consider the opinions of others even if they differ from mine					✓	
16-	When accomplishing a task, I am completely focused on achieving my goal and do not consider the opinions of others. I rely only on myself				✓		
17-	By working on a problem in a team I become a more independent thinker					✓	
18-	Working in a team facilitates problem solution						✓
19-	If a team-member offers an alternative problem solution, it confuses me. I need a single solution to a problem.					✓	
20-	I do not make assumptions and draw conclusions until I understand things deeply.						✓
21-	I value the results more than the thinking process leading to them				✓		
22-	I always look for the facts that confirm my arguments and disregard the facts that refute them					✓	
23-	I have to work more in order to perfect my thinking skills regardless of the challenges encountered						✓

		1	2	3	4	5	6
24-	I have to learn more by myself, rather than relying on teachers and text-books						✓
25-	The feelings of satisfaction and joy, which result from successful task accomplishments, stimulate my motivation for further actions.						✓
26-	My thinking skills should help me become a responsible member of my school and community						✓

Investigating the Use of Higher Order Thinking Skills in EFL classes

Part 2

B. The questionnaire for teachers

This questionnaire is designed to investigate the teachers' perception on HOTS and the effects of using HOTS in your pedagogical practices. Please respond to the statements in the questionnaire to the best of your ability. The information collected through this enquiry will be used for the purposes of this study. The privacy of each participant will be respected. All questionnaires will be coded so as to ensure the anonymity of each participant. Completed questionnaires will be kept in a locked place accessible only to the researcher.

Please indicate your opinion on the statements listed in the tables by ticking a number according to the scale provided below.

1 – Strongly disagree. 2 – Disagree. 3 – Somewhat disagree. 4 – Somewhat agree. 5 – Agree. 6 – Strongly agree.

Section 1. Demographic Information

Personal Information

Please provide information by completing the blanks:

What is your gender? ☐ Male ☑ Female

Age: .....30.

Years of experience: .....5.....

Section 2. Questionnaire items

Item	To which extent you agree or disagree with the following statements?	1	2	3	4	5	6
1-	Each task implementation should be preceded by reflection on action.					✓	
2-	Before task implementation, I recommend to outline a programme of action and test it during the implementation.				✓		
3--	At the end of a task, I recommend to students to reflect on the thinking methods and strategies employed					✓	
4-	I help my students to analyze the forces that led them in their thinking process (whether they were guided by logic or emotional forces or both)..				✓		
5-	When we have a problem at hand, I teach students to solve it systematically (formulating goals, generating and evaluating solutions)				✓		
6-	I teach my students to solve problems by using rigorous arguments and strong evidence				✓		

		1	2	3	4	5	6
7-	We should work on problems which provide the opportunity for students to build their own ideas into the solution.						✓
8-	The best way to solve problems is to demonstrate specific methods for solving each type of problem. Students may be confused when encountered by the problems that require alternative approaches.					✓	
9-	I am prepared to stop the preplanned sequence of instruction in order to coach students' thinking.						✓
10-	I see curriculum and subject matter are at the center of instruction. Engaging students into probing subject matter creates ambiguity which interferes with instruction.					✓	
11-	We should develop methods for instilling critical thinking in students with high academic achievements and in those with learning difficulties.						✓
12-	Teaching HOT is appropriate for students with high academic achievements; it is inappropriate for weak students.						✓
13-	Developing HOT is important not only in teaching math and science, but in humanities as well.				✓		
14-	New concepts should be taught in real-life context by using examples from everyday life.						✓
15-	I recommend my students to understand things deeply before they make assumptions and draw conclusions.					✓	
16-	Reflecting on the thinking process that led to the idea may confuse students and interfere with the accomplishment of a learning task.				✓		
17-	I encourage team-thinking activities focused on the students' personal thoughts rather than definitive knowledge.					✓	
18-	I believe that students learn better when they are engaged in participation. Team brainstorming makes them more independent thinkers.					✓	
19-	Engagement of students in a team-thinking process interferes with the normal sequence of instruction.				✓		
20-	Teachers should guide and facilitate learning rather than control it.						✓
21-	The main role of teachers is to transmit knowledge to students and prepare them for matriculation exams.					✓	
22-	By developing students' thinking skills, we make them more independent learners.						✓
23-	The feelings of satisfaction and joy, which result from successful task accomplishments, stimulate the student motivation for further actions.						✓
24-	Instilling critical thinking skills in students should be aimed at developing their respect for the ideas of others and encouraging cooperative behaviour.						✓
25-	By developing HOTS in students, we should educate them as socially and ethically responsible members of the community.						✓

APPENDIX F

Committee Approval

10.08.2022

NAER EAST UNIVERSITY

SCIENTIFIC RESEARCH ETHICS COMMITTEE

Dear Reham A. A. Baroud

Your application titled **"Investigating the Use of Higher Order Thinking Skills in EFL Classes"** with the application number NEU/ES/2022/346 has been evaluated by the Scientific Research Ethics Committee and granted approval. You can start your research on the condition that you will abide by the information provided in your application form.

Assoc. Prof. Dr. Direnç Kanol

Rapporteur of the Scientific Research Ethics Committee

Direnc Kanol

Note: If you need to provide an official letter to an institution with the signature of the Head of NEU Scientific Research Ethics Committee, please apply to the secretariat of the ethics committee by showing this document.

APPENDIX F

The Mean and Standard Deviations for the Teachers' Scale's Items

Item	Mean	D
2.Before task implementation, I recommend to outline a programme of action and test it during the implementation.	4.05	0.577
3.At the end of a task, I recommend to students to reflect on the thinking methods and strategies employed.	4.00	0.816
4. I help my students to analyze the forces that led them in their thinking process (whether they were guided by logic or emotional forces or both).	4.05	0.511
5.When we have a problem at hand, I teach students to solve it systematically (formulating goals, generating and evaluating solutions).	4.15	0.314
9.I am prepared to stop the preplanned sequence of instruction in order to coach students' thinking.	3.94	0.884
10.I see curriculum and subject matter are at the center of instruction. Engaging students into probing subject matter creates ambiguity which interferes with instruction.	4.26	0.229
12.Teaching HOT is appropriate for students with high academic achievements; it is inappropriate for weak students.	3.92	0.346
15.I recommend my students to understand things deeply before they make assumptions and draw conclusions.	3.97	0.525
17.I encourage team-thinking activities focused on the students' personal thoughts rather than definitive knowledge.	4.05	0.816
18.I believe that students learn better when they are engaged in participation. Team brainstorming makes them more independent thinkers.	3.89	0.311
19.Engagement of students in a team-thinking process interferes with the normal sequence of instruction.	4.10	0.414

21.The key role of teachers is to transmit knowledge to students and prepare them for matriculation exams.	4.21	0.346
22.By developing students' thinking skills, we make them more independent learners.	4.21	0.478
23.The feelings of satisfaction and joy, which result from successful task accomplishments, stimulate the student motivation for further actions.	3.94	0.562
25.By developing HOTS in students, we should educate them as socially and ethically responsible members of the community.	3.95	0.756
Total	**3.81**	**0.232**

APPENDIX G

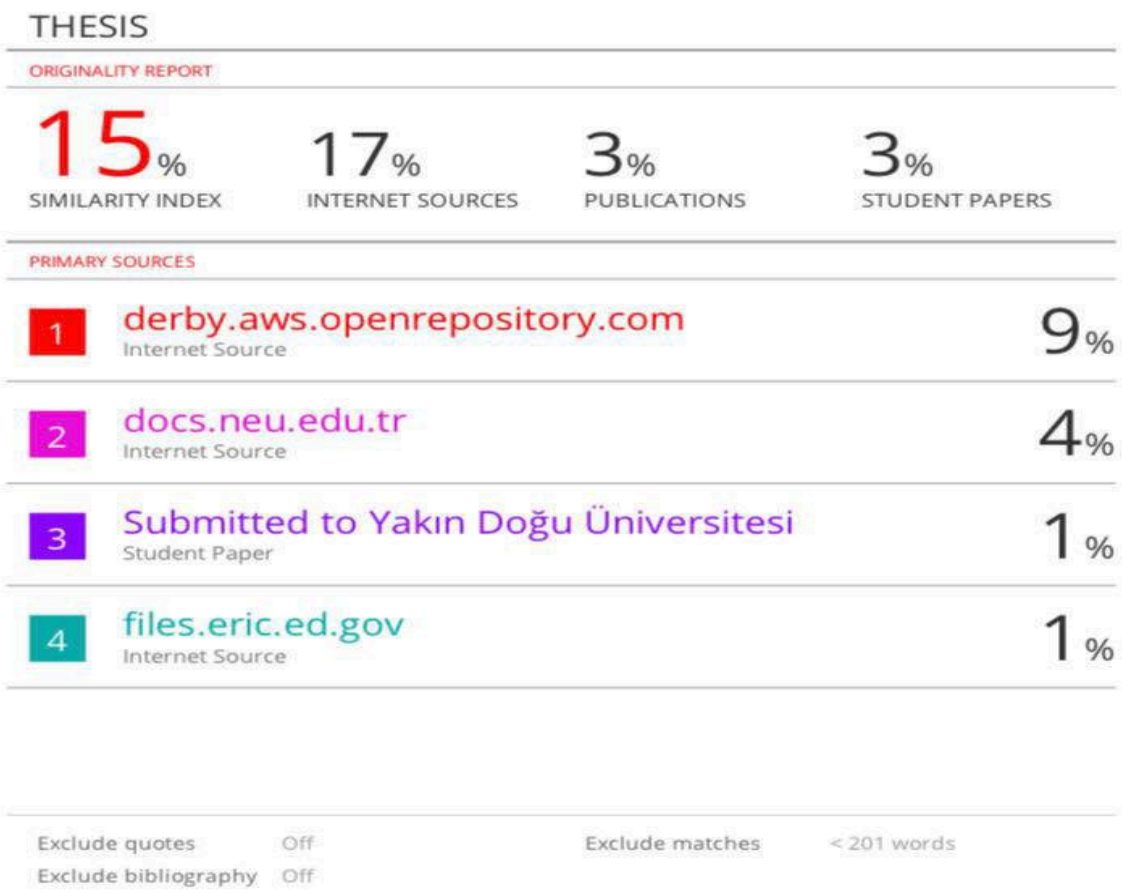
The Mean and Standard Deviations for the Students Scale's Items

Item	Mean	SD
2.Before task implementation, I outline a program of action and test it during the implementation.	4.15	0.567
3.At the successful/unsuccessful completion of the task, I seek to analyze the process I have passed, in order to succeed in future tasks	4.23	0.716
4.When working on a task, I rarely stop to test whether I do it right or wrong.	4.15	0.521
5.I try to analyze the forces that led to my decision (whether I was guided by logic or emotional forces or both).	4.15	0.324
6.When encountered by a problem, I analyze it and formulate possible solutions in order to find the best one	4.36	0.671
8.When encountered by a problem that requires multiple solutions, I feel confused. I prefer the single, well-established answer to a problem.	3.99	0.456
9.While preparing to accomplish a task, I analyze my past experiences, both failures and achievements, and seek to use the knowledge gained through the accomplishment of previous tasks.	3.95	0.824
10.The thinking skills obtained in the classroom help me to understand connection between prior knowledge and the new information.	4.36	0.229
12.Every learning experiment helps me to be a more independent learner.	3.93	0.316
16.When accomplishing a task, I am completely focused on achieving my goal and do not consider the opinions of others. I rely only on myself	3.98	0.377
17.By working on a problem in a team I become a more independent thinker	4.35	0.716
19.If a team-member offers an alternative problem solution, it confuses me. I need a single solution to a problem.	4.15	0.314
21.I value the results more than the thinking process leading to them	4.41	0.356

23.I have to work more in order to perfect my thinking skills regardless of the challenges encountered	3.91	0.522
25.The feelings of satisfaction and joy, which result from successful task accomplishments, stimulate my motivation for further actions.	3.92	0.746
26.My thinking skills should help me become a responsible member of my school and community	4.51	0.221
Total	**4.10**	**0.542**

APPENDIX H

Turnitin Report



THESIS

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