BAŞKENT UNIVERSITY
INSTITUTE OF EDUCATIONAL SCIENCES
DEPARTMENT OF FOREIGN LANGUAGE EDUCATION
MASTER'S DEGREE PROGRAMME IN ENGLISH LANGUAGE TEACHING WITH THESIS

EXPLORING THE METACOGNITIVE AWARENESS LEVEL OF EFL INSTRUCTORS

PREPARED BY

İNCİ KEÇİK

MASTER THESIS

ANKARA – 2021

BAŞKENT UNIVERSITY
INSTITUTE OF EDUCATIONAL SCIENCES
DEPARTMENT OF FOREIGN LANGUAGE EDUCATION
MASTER'S DEGREE PROGRAMME IN ENGLISH LANGUAGE TEACHING WITH THESIS

EXPLORING THE METACOGNITIVE AWARENESS LEVEL OF EFL INSTRUCTORS

PREPARED BY

İNCİ KEÇİK

MASTER THESIS

THESIS ADVISOR

ASST. PROF. DR. SENEM ÜSTÜN KAYA

ANKARA – 2021

BAŞKENT ÜNİVERSİTESİ

EĞİTİM BİLİMLERİ ENSTİTÜSÜ

Yabancı Diller Eğitimi Anabilim Dalı İngiliz Dili Öğretimi Tezli Yüksek Lisans Programı çerçevesinde İnci Keçik tarafından hazırlanan bu çalışma, aşağıdaki jüri tarafından Yüksek Lisans Tezi olarak kabul edilmiştir.

Tez Savunma Tarihi: 19/11/2021

Tez Adı: İngilizce Okutmanlarının Bilişötesi Farkındalık Düzeylerinin Araştırılması

Tez Jüri Üyeleri (Unvanı, Adı - Soyadı, Kurumu)	**İmza**
Prof. Dr. Cem Balçıkanlı, Gazi Üniversitesi	…….....
Asst. Prof. Dr. Senem Üstün Kaya, Başkent Üniversitesi	…….....
Asst. Prof. Dr. Ahmet Remzi Uluşan, Başkent Üniversitesi	……..…….

ONAY

Prof. Dr. Servet Özdemir

Eğitim Bilimleri Enstitüsü Müdürü

Tarih: …/…/2021

BAŞKENT ÜNİVERSİTESİ

EĞİTİM BİLİMLERİ ENSTİTÜSÜ

YÜKSEK LİSANS TEZ ÇALIŞMASI ORİJİNALLİK RAPORU

Tarih: 13/10/2021

Öğrencinin Adı, Soyadı: İnci Keçik

Öğrencinin Numarası: 21820084

Anabilim Dalı: Yabancı Diller Eğitimi

Programı: İngiliz Dili Öğretimi Tezli Yüksek Lisans Programı

Danışmanın Unvanı/Adı, Soyadı: Asst. Prof. Dr. Senem Üstün Kaya

Tez Başlığı: İngilizce Okutmanlarının Bilişötesi Farkındalık Düzeylerinin Araştırılması

Yukarıda başlığı belirtilen Yüksek Lisans tez çalışmamın; Giriş, Ana Bölümler ve Sonuç Bölümünden oluşan, toplam 98 sayfalık kısmına ilişkin, 11/10/2021 tarihinde tez danışmanım tarafından Turnitin adlı intihal tespit programından aşağıda belirtilen filtrelemeler uygulanarak alınmış olan orijinallik raporuna göre, tezimin benzerlik oranı % 10'dur. Uygulanan filtrelemeler:

1. Kaynakça hariç

2. Alıntılar hariç

3. Beş (5) kelimeden daha az örtüşme içeren metin kısımları hariç

"Başkent Üniversitesi Enstitüleri Tez Çalışması Orijinallik Raporu Alınması ve Kullanılması Usul ve Esaslarını" inceledim ve bu uygulama esaslarında belirtilen azami benzerlik oranlarına tez çalışmamın herhangi bir intihal içermediğini; aksinin tespit edileceği muhtemel durumda doğabilecek her türlü hukuki sorumluluğu kabul ettiğimi ve yukarıda vermiş olduğum bilgilerin doğru olduğunu beyan ederim.

Öğrenci İmzası: …….

ONAY

Tarih: 13/10/2021

Öğrenci Danışmanı Unvan, Ad, Soyad, İmza:

……

Asst. Prof. Dr. Senem Üstün Kaya

To my dear daughter, Dilay KEÇİK

ACKNOWLEDGMENTS

It would not have been possible to complete this thesis without the direct or indirect cooperation of many people. To acknowledge some runs the risk of omitting others. My apologies in advance to those I have left out, and my sincere thanks to all the people who have contributed to the completion of this research study.

In the first place, I would like to express my deepest gratitude to my thesis advisor Asst. Prof. Dr. Senem ÜSTÜN KAYA, who was very generous with her time and knowledge and meticulously assisted me in each step to complete my master's thesis. With her support through this zestful journey, I have once more reached a real milestone. And once again, I am well aware of the fact that learning is a lifelong pursuit.

I would also like to offer my special thanks to the committee member Prof. Dr. Cem BALÇIKANLI for the insightful suggestions and invaluable feedback on this research report. In particular, I wish to express my sincere appreciation to my dear instructors Asst. Prof. Dr. A. Remzi ULUŞAN, Asst. Prof. Dr. Gülin DAĞDEVİREN KIRMIZI, and Asst. Prof. Dr. S. Soner SÜTÇÜ for their constant encouragement of my endeavours throughout my years of study in this MA programme. I am profoundly indebted to them for inspiring me to grow a scholarly mind-set. I would also like to extend my thanks to my lovely friends, who were the anchors when things were difficult for me throughout the entire process.

I am especially indebted to my parents and I offer my heartfelt thanks to my dearest brother, Emre BOZ who has always been there for me. Without all their persistent love and support, it would not have been possible for me to complete the most rewarding achievement of my life. And last but not least, special thanks are reserved for my sweetheart daughter, Dilay KEÇİK, and my beloved husband, A. Turgut KEÇİK, who have always spared their best to enable me to pursue my dreams. This accomplishment would not have been possible without them. I will be grateful forever for their support and insight.

Notwithstanding all of the above support for this study, any errors and/or omissions are solely my own.

İnci KEÇİK

Ankara 2021

ÖZET

İnci KEÇİK

İngilizce Okutmanlarının Bilişötesi Farkındalık Düzeylerinin Araştırılması

Başkent Üniversitesi

Eğitim Bilimleri Enstitüsü

Yabancı Diller Eğitimi Anabilim Dalı

İngiliz Dili Öğretimi Tezli Yüksek Lisans Programı

2021

Bu çalışmanın temel amacı, İngilizce okutmanlarının üstbilişsel farkındalık düzeylerini araştırmaktır. Bu amaçla, İngilizce okutmanlarının yaş, mezuniyet derecesi, öğretmenlik deneyim yılı sayısı ve mesleki eğitim için alınan kurs sayısı açısından üstbilişsel farkındalık düzeylerinde anlamlı bir farklılık olup olmadığının incelenmesi amaçlanmıştır. Araştırma, deneysel olmayan nicel araştırma desenine sahiptir ve 2020–2021 eğitim öğretim yılında Ankara'da bulunan Vakıf Yükseköğretim Kurumları Yabancı Diller Yüksekokulu Hazırlık Sınıflarında görev yapan 161 gönüllü İngilizce okutmanı ile gerçekleştirilmiştir. Veri toplama araçları, araştırmacı tarafından geliştirilen Demografik Bilgi Formu ve Balçıkanlı (2011) tarafından geliştirilen Öğretmenin Bilişötesi Farkındalık Ölçeği (MAIT) adlı öz bildirim aracıdır. 24 maddelik Likert tipi bir ölçek olan MAIT, üst bilişin iki ana boyutunu temsil eder: biliş bilgisi ve bilişin düzenlenmesi. Biliş bilgisi, üç genel bilgi türünü (yani bildirimsel, prosedürel ve koşullu) içerirken, bilişin düzenlenmesi üstbilişsel becerilerden (yani planlama, izleme ve değerlendirme) oluşur. Veriler betimleyici istatistikler kullanılarak analiz edilmiştir. Sonuçlar, İngilizce okutmanlarının üstbilişsel farkındalık düzeylerinin yüksek olduğunu ortaya koymuştur. Bildirimsel bilgi alt kategorisinde alınan ortalama puan en yüksek olarak bulunurken, en düşük puan değerlendirme alt kategorisinde elde edilmiştir. Sonuçlar ayrıca, İngilizce okutmanlarının üstbilişsel farkındalıklarının alt kategorileri arasında yukarıda belirtilen değişkenlere göre anlamlı bir farklılık olduğunu göstermiştir. Çalışma, daha fazla araştırma ve uygulamaya yönelik önerilerle sona ermektedir.

Anahtar Kelimeler: Bilişötesi, üstbilişsel bilgi, bilişin düzenlenmesi, öğretmenlerin bilişötesi farkındalığı

ABSTRACT

İnci KEÇİK

Exploring the Metacognitive Awareness Level of EFL Instructors

Başkent University

Institute of Educational Sciences

Department of Foreign Language Education

Master's Degree Programme in English Language Teaching with Thesis

2021

The main aim of the present study is to explore the metacognitive awareness level of EFL instructors. To this end, it also aims at examining whether there is a significant difference in the metacognitive awareness level of the EFL instructors in terms of their age, graduation degree, the number of years of teaching experience, and the number of training courses received for professional development. The study has a non-experimental quantitative research design. It was conducted with 161 voluntary EFL instructors who work in the Preparatory Classes of the School of Foreign Languages at the foundation higher education institutions in Ankara, Turkey, during the 2020–2021 academic year. The data collection tools were a Demographic Information Form developed by the researcher and a self-report instrument entitled the Metacognitive Awareness Inventory for Teachers (the MAIT) devised by Balçıkanlı (2011). The MAIT, a Likert-type scale with 24 items, represents two major dimensions of metacognition: knowledge of cognition and regulation of cognition. Knowledge of cognition includes the three general types of knowledge (i.e. declarative, procedural, and conditional) whereas regulation of cognition consists of metacognitive skills (i.e. planning, monitoring, and evaluating). The data were analysed by using descriptive statistics. The results revealed that the EFL instructors have a high level of metacognitive awareness. While the mean score obtained for the declarative knowledge subcategory was found to be the highest, the lowest score was obtained in the evaluating subcategory. The results also showed that there was a significant difference between the subcategories of the metacognitive awareness of the EFL instructors according to the above-mentioned variables of interest. The study concludes with suggestions for further research and practice.

Keywords: Metacognition, metacognitive knowledge, regulation of cognition, metacognitive awareness of teachers

TABLE OF CONTENTS

LIST OF TABLES

Page

LIST OF FIGURES

Page

LIST OF ABBREVIATIONS

BA	Bachelor of Arts
CoHE	Council of Higher Education
EFL	English as a Foreign Language
ELT	English Language Teaching
L2	Second and/or Foreign Language
MA	Master of Arts
MAI	Metacognitive Awareness Inventory
MAIT	Metacognitive Awareness Inventory for Teachers
PhD	Doctor of Philosophy
SLL	Second Language Learning
ZPD	the Zone of Proximal Development

CHAPTER 1

1. INTRODUCTION

The Introduction section commences with the background to the current study and afterward presents the statement of the problem. It determines the purpose of the study including the research questions and subsequently establishes the importance of the study. It finally defines the limitations of the study and the concepts and terminology employed.

1. 1. Background of the Study

Twenty-first-century skills demand us to ensure that learners of all ages feel ready for life in and beyond schooling settings (Chalkiadaki, 2018; van Laar et al., 2020). Accordingly, thinking and learning independently and effectively stand out as a fundamental need for teachers as well as for learners. Based on this overarching need, researchers recently have attached special importance to the concept of metacognition and seem to agree that this potent agent can either support or thwart one's active participation and growth not only in an educational setting but also in their future life (Bandura, 2010; Deci & Ryan, 2008; Efklides, 2009).

Due to its abstract and vague nature, it seems that the term metacognition bears no precise definition in the literature (Livingston, 2003). However, in broad terms, metacognition can be defined as "cognition about cognitive phenomena" (Flavell, 1979, p. 906). More specifically, cognition refers to learning, that is, "how information is processed and learned by the human mind" (Ortega, 2013, p. 82). According to Holton and Clarke (2006), "while cognition can be considered as the way learners' minds act on the 'real world', metacognition is the way that their minds act on their cognition" (p. 132). In the same manner, Veenmal et al. (2006) posit that "metacognition draws on cognition" (p. 5). This being the case, "metacognition refers to one's knowledge about, awareness of, and control over one's own mind and thinking" (Swartz & Perkins, 1990, p. 51). It is then hardly surprising that "learning is called equivalent to thinking" (Efklides, 2009, p. 76). If this were the case, then, as claimed by Veenman et al. (2006), by providing a learner with a sufficient level of metacognition, the difficulties in their learning can be compensated. As a result of such assistance, learner independence can be promoted (Holton & Clarke, 2006).

Although the term metacognition was first used by Flavell (1979), the concept of metacognition predates this developmental psychologist and its origins can be followed back to very old times (Noushad, 2008). Marzano et al. (1988) maintain how we think and learn has been an appeal since our ancestors started to reflect on their own mental processes. To illustrate, Ryff and Singer (2008) discuss that the phrase "Know thyself" engraved on an ancient temple admonishes us to become aware of our own actions, abilities, needs, aspirations, goals, emotions, and so forth, and act accordingly (p. 18). In fact, this is the very same admonishment that educational, cognitive, and developmental psychologists (Boekaerts, 1999; Dörnyei, 1998; Flavell, 1979; Schraw, 1998; Zimmerman, 2002) seem to have stated anew: the admonishment for being cognizant of one's own broad dimensions of cognition, in other words, of metacognition.

While many researchers have yet to reach a consensus on its definition, it seems they come to terms that metacognition has two broad dimensions (Schraw, 1998). The first dimension, knowledge of cognition involves "people's knowledge of their own information-processing skills, as well as knowledge about the nature of cognitive tasks, and about strategies for coping with such tasks" (Schneider, 2008, p. 114). The second broad dimension, regulation of cognition, includes metacognitive skills pertinent to self-regulating an individual's learning by planning, monitoring, and evaluating. Ultimately, these skills are the "keywords associated with metacognition" detected on educational textbooks (Ellis et al., 2012, p. 9) and the necessary elements "to orchestrate one's learning" (Bransford et al., 2000, p. 97). Therefore, the abovementioned admonishment deserves attention.

Then, on that account, as noted by Paris and Winogard (1990), "metacognition fosters independent learning by providing personal insight into one's own thinking" (p. 7) which is the ultimate aim of education: to encourage learners' desire and ability to become lifelong learners (Zimmerman, 2002). Finch (2002) touches upon the aforementioned issue with the following comments:

> It is imperative now that education focus on the whole person as a thinking, feeling, creative individual - a responsible member of society. If we are to address the myriad problems facing us, we need citizens with problem-solving skills, critical thinking skills; people who ask questions, who set goals, reflect on achievement, re-assess the situation, and proceed in an informed manner. (p. 20)

Based on the pertinent literature, we can presume what Finch (2002) portrays as a need of a contemporary citizen or an ultimate aim of education points to the concept of metacognition with broad and indefinite scope. To obtain the abovementioned "desirable

educational outcome" (Paris & Newman, 1990, p. 87), for the past fifty years, researchers have relentlessly pursued the issue of how to empower students with the "desirable but elusive personal quality" (Zimmerman, 2002, p. 66) that enables them to have mastery of their own learning (Hattie et al. 1996; Rubin, 1975; Paris & Paris, 2001; Perry et al., 2018). As a consequence, the relevant literature, as noted by Sternberg (1998), yields a great deal of theoretical and empirical data that "make a convincing case" (p. 127) on the importance of metacognition to success in formal educational settings (Balçıkanlı, 2010; Casselman & Atwood, 2017; Cer, 2019; Çubukçu, 2008; O'Malley et al., 1989; Palincsar, 1984; Pintrich & de Groot, 1990; Şahin & Kendir, 2013; Young & Fry, 2008; Zimmerman & Martinez, 1990; Zohar & Barzilai, 2013). Nonetheless, what Sternberg points out is, in his words, "we need to understand metacognition as representing part of the abilities that lead to student expertise, but only as part" (p. 127) since there are some other aspects such as a lack of abilities, styles, and intelligence that were once often attributed to students' deficiencies in learning until the late 1970s (Zimmerman, 2002). All in all, in the early 1980s, researchers began to come to agree that students' lack of self-regulation may lay the basis for individual differences in learning. Therefore, as Boekaerts (1999) notes, these basic self-regulatory processes should be taken into account as "propadeutic to learning" (p. 453) in school and beyond.

Learning does not exist in a vacuum; it occurs either through actively performing or vicariously observing models (Holton & Clarke, 2006; Schunk, 2012). Learners and teachers reciprocally interact with one another (Bandura, 1989; Palincsar, 1984; Zimmerman, 1989). Research holds evidence that instructors play a key role in the academic life of learners (Soodla et al., 2017), and that the classroom can still be "the primary venue through which students learn" (Wenglinsky, 2002, p. 1). Therefore, in this respect, it is noteworthy that the spread of the use of metacognitive strategies among learners within formal educational contexts may, first and foremost, relate to raising teachers' metacognitive awareness (Balçıkanlı, 2010; Holton & Clarke, 2006; Kurtz et al., 1990; Soodla et al., 2017; Wilson & Bai, 2010). Ultimately, it would gradually bestow "the greatest gift (Courtenay, 1989, p. 326)" (Paris & Winograd, 1990, p. 7) upon students and teachers alike (Hartman, 2001).

In fact, a great many educators agree on the view that it behoves teachers to empower their students with metacognitive skills so that they can take the initiative for their own learning thus they learn autonomously in school and beyond (Hartman; 2001; Swartz & Perkins, 1990; Wall & Hall, 2016). For example, Schraw (1998) suggests that it is

incumbent on teachers to structure "conducive environments" (p. 121) so that students will be able to build up their own understandings. For this purpose, Bransford et al. (2000) expect teachers to supply the instructional support that will assist students to take the initiative for their own learning in their proximal developmental zone. Paris and Winograd (1990) take a similar view and emphasize that the teacher's role is to supply a supportive environment to show how to utilize metacognition rather than give "exhortations" (p. 9). In sum, when one runs the above-noted views of the researchers, even with a cursory glance, it becomes apparent that the underlying issue lurking behind how to facilitate and reinforce the learning processes of students and to empower students with metacognitive skills can be attributed to their teachers' metacognitive awareness (Kallio et al., 2017).

1.2. Statement of the Problem

One major concern for higher education institutions that pioneer research and place the primacy of importance on scientific thinking (Knapper & Cropley, 2000), is to ensure that learners make progress throughout their degree program, gain academic achievement, and eventually graduate (Kitsansas et al., 2008). Undergraduates can be considered as would-be citizens who will need to be able to think on their feet to "thrive in" future life and the workplace (Kuhn & Dean, 2004, p. 268). In a sense, their metacognitive skills need to be boosted to "make wise and thoughtful life decisions as well as to comprehend and learn better in formal educational settings" (Flavell, 1979, p. 910). Research suggests graduate students need metacognition more than undergraduates to complete a degree (Lindner et al., 1996). Research in Turkey has revealed that undergraduates need to be assisted by their instructors in gaining strategic knowledge to better regulate their own learning (Baldan, 2017; Kaya, 2016). In sum, they need to be not only knowledgeable persons but also "active seekers and processors of information" (Schunk, 2008, p. 463). In this context, undergraduates' learning how to study effectively without being excluded from the contents of their majors and their learning processes is of paramount importance (Schneider, 2008; Wingate, 2006).

Another concern is with regard to learning an additional language, which seems a requisite skill in one's daily and academic life in the rapidly changing world (Arık & Arık, 2014; Balçıkanlı, 2021; Cook, 2003; Harmer, 2001; Kırkgöz, 2009; Ortega, 2013; van Laar et al., 2020). Kırkgöz (2009) draws attention to the rising interest in English in the Turkish educational context. Further, one study conducted by Arık and Arık (2014) indicated that

there has been an increase in the status of English in Turkey and it is widely offered in different domains at the undergraduate level as well as in bachelor or doctoral degree programs. Tertiary education in Turkey is an optional final stage of formal education process that occurs after completing of secondary education. In higher education institutions, academic degrees at different levels are offered and these usually include Bachelor of Arts (BA), Master of Arts (MA), and Doctor of Philosophy (PhD). A Bachelor's degree is often awarded to learners after their successfully completing a course of about four to five years of study in higher education. To hold an MA, two more additional years need to be completed but, to earn a PhD, it needs at least another six years of study. Research suggests that particularly language learners have an inclination towards autonomy (Balçıkanlı, 2008; Kaya, 2016; Şakrak-Ekin & Balçıkanlı, 2019). Therefore, promoting the metacognitive awareness and enhancing the knowledge of metacognition of graduates who wish to earn a Master's or Doctoral degree and undergraduates who enrol in the English preparatory classes is worthy of notice. This may lead to empowering them how to regulate their cognition, thereby encouraging them to develop a better command of the target language and ultimately enabling them to become lifelong learners. However, as emphasized by Işık (2008), despite all the resources and efforts spent in foreign language education in Turkey, the desired level of language proficiency still poses an issue. Işık pointed out that one reason might be due to the traditional ways of teaching and learning a target language as well as to the deficiencies in language planning. In essence, as noted by Little (1991), this implies "redefining the role of the teacher in adult education" (pp. 7–8).

Given the above, even at the tertiary level of education, learners should be empowered with "learning how to learn" (Zhang & Zhang, 2019, p. 889). In other words, instructors need to equip their learners with a higher level of metacognition and self-regulatory skills to let them take mastery in their learning and thinking processes (Demirören et al., 2020; Turan, 2009). This, in turn, undoubtedly, brings out the issue of teachers' awareness, which can "help teachers teach intelligently across subject areas and help them maximize their impacts on students by systematic reflection on and improvement of instruction" (Hartman, 2001, p. 151).

Teachers are ideally supposed to have some types of metacognitive knowledge, namely, "declarative, procedural, and conditional", for the tasks assigned to learners, and also "teach and reinforce them" in a systematic way (Marzano et al., 1988, p. 14). In other words, we might expect that teachers who graduate from, the Faculty of Education are well

equipped with the knowledge, attitudes, behaviour, and as a result, they will demonstrate a more important difference in the metacognitive strategy use (Hartman, 2001). However, contrary to expectations, considered the related literature, not many researchers are optimistic about professional educators' metacognitive instruction (Kurtz et al., 1990, p. 279). Research shows that teachers hardly provide a conducive class environment to foster the self-regulated skills of students (Kistner et al., 2010) and both teacher trainees and teachers in service need explicit instruction of teaching metacognitively (Hartman, 2001; Kazu & Yıldırım, 2013; Memnun & Akkaya, 2009; Öztürk, 2018; Wall & Hall, 2016).

One of the most likely reasons for the issue mentioned above could be, as claimed by Veenmal et al. (2006), that teachers have little acquaintance with metacognition. In fact, this was exemplified in a study conducted with in-service teachers undertaken by Zohar and Barzilai (2013). The findings revealed that teachers' metacognitive knowledge was not satisfactory enough to teach higher-order thinking in class. Another reason could be the possibility that, as pointed out by Hartman (2001), metacognitively incompetent teachers "suffer from the fallacious assumption that 'teaching = learning'" (Hartman, 2001, p. 152). The teacher, as an expert can possess "all kinds of implicit knowledge" (Pintrich, 2002, p. 224) to be used appropriately. Nonetheless, as Rubin (1975) points out, the teacher usually "plows ahead with the lesson seemingly with little awareness of what is going on in each student" (p. 44). In addition, Sternberg (1998) draws attention to the possibility that despite their awareness of metacognitive skills, teachers may not know how to teach them. Therefore, Sternberg suggests teachers need to be trained explicitly on what metacognitive skills are and on how to incorporate them in classes (p. 130). Dam (2003) as well supports the notion that the "onerous" (p. 135) task of promoting learner autonomy is assigned to the teachers. On the other hand, Sternberg (1998) and Veenman et al. (2006) imply that the issue of how to successfully incorporate instruction of metacognitive is not merely "a matter of individual teachers but also of school organization" (p. 10). As a matter of fact, recent research has supported the view that metacognition is "a neglected area of school policy and practice" (Perry et al., 2018, pp. 483–500).

Harmer (2012), in his book entitled "Essential Teacher Knowledge", covers major issues about English language teaching and puts an emphasis on the role of the teacher. According to Harmer, "teachers are at all times facilitators of learning" (p. 146). Further, they fulfil a variety of more roles; for example, acting as a prompter, resource, and feedback provider are just some of their roles that enable learning possible (pp. 146–147). Harmer

suggests that in order to teach effectively, teachers need to consider a number of pedagogical knowledge before, during, or after the class. To exemplify, they need to think about how to train their students in different reading skills such as skimming and scanning (p. 123), about how to involve them in the steps in the process of writing (pp. 128–129), about when to give feedback (pp. 160–161), and about how to give different kinds of appropriate and effective correction (pp. 162–167). In other words, teachers need to think about how to engage their students in an activity or exercise, how to encourage them to study, and how to activate their knowledge. Teachers need to think about how to organize the procedures they are going to implement and how to provide a balance among them in every single lesson. To manage the class well, they need to think of even the best position in class-whether being in front of or moving around the class while acting out these different roles they play. They need to make informed decisions on when to teach "unplugged" (p. 186), "what technology to use" (p. 188), or how to make a classroom environment conducive to learning (p. 204). In sum, it seems that teachers are supposed to not only transmit knowledge but also to "scaffold learning (provide guidance and support)" (p. 88) by assisting "learner training" (p. 90), which means getting their students to think of the best ways of learning efficiently until they are truly independent. This obviously brings their own metacognitive awareness into question.

Given all the issues above, we can draw the conclusion that it is highly likely that teachers will be unable to "effectively teach cognitive skills" unless they comprehend what these skills actually mean (Kuhn & Dean, 2004, p. 269). In Schneider's (2008) words, "as long as teachers do not think in information-processing terms, it will be difficult to establish progress in this field" (p. 119). Undoubtedly, when we assume that one cannot teach what one does not know, promoting metacognitive awareness of the teacher in teaching and learning processes becomes more conceivable (Paris & Winograd, 1990).

1.3. Purpose of the Study

The overall purpose of the current study is to explore the metacognitive awareness level of EFL instructors. To achieve this goal, it also aims at examining whether there is a significant difference in the metacognitive awareness level of the EFL instructors in terms of their age, graduation degree, the number of years of teaching experience, and the number of training courses received for professional development.

1.3.1. Research questions

A research question can be subdivided into sub-questions in order to define the basic problem more clearly and to solve it more easily (Aypay et al., 2014, pp. 100–101). Therefore, within the scope of the above-mentioned general purpose, in this research, the following sub-questions pose the problem of the research:

1. What is the metacognitive awareness level of the EFL instructors who work in the Preparatory Classes of the School of Foreign Languages at the Foundation Higher Education Institutions in Ankara, Turkey?
2. Is there a significant difference in the metacognitive awareness of the EFL instructors according to the different variables such as

   2.1. age

   2.2. graduation degree

   2.3. the number of years of teaching experience

   2.4. the number of training courses received for professional development?

1.4. Significance of the Study

Veenman et al. (2006) conclude that "teachers are absolutely willing to invest effort in the instruction of metacognition within their lessons". Further, research holds evidence that when equipped with metacognitive skills, that is, self-regulatory skills such as planning, monitoring, and evaluating, it is possible for teachers to improve their metacognitive awareness (Balçıkanlı, 2010).

According to Gunstone and Northfield (1994), promoting metacognitive awareness of teachers can trigger a change in their own professional development, and thus, teachers can build a learning milieu that consolidates self-regulated learning via strategy-based teaching. Öztürk (2018) hypothesized that a teacher who is metacognitively competent is capable of teaching students metacognition. As a matter of fact, research provides strong evidence indicating that when teachers act as metacognitive role models, they not only supported the enhancement of the students' learning but also they paved the way for their own learning, metacognitive knowledge, and skilfulness (Soodla et al., 2017; Wall & Hall, 2016).

Nevertheless, although much research has been conducted on pupils' and adults' metacognition, the literature yields limited studies that have dealt with teachers' metacognitive awareness (Stewart et al., 2007; Wilson & Bai, 2010). Additionally, research interest has a tendency to be prominent for pre-service teachers, and hence, it appears that there is a lack of research in the literature on experienced in-service language teachers' metacognitive awareness. Therefore, that relatively little research is on the EFL instructors in the Turkish higher education context, especially in the foundation higher education institutions, is the focus of the present research. As such, when considered the results of the current study can contribute to the body of knowledge, a grain size though, and can benefit researchers studying in the field of professional development of teachers, the study merits significance.

1.5. Limitations of the Study

There are several main limitations to be addressed regarding the present study. Firstly, this research is a quantitative and descriptive study by nature, and due to permission, cost, and time constraints, the data collection is limited to survey instruments (Fraenkel et al., 2006, p. 558). However, the data collection techniques of the qualitative method can be used to support the findings (Turhanoğlu et al., 2012, pp. 98–99). Secondly, since the entire population cannot be reached, the study is limited to the sample of the EFL instructors who work in the Preparatory Classes in the School of Foreign Languages at the foundation universities in Ankara, Turkey. Another limitation is that the study is planned to be completed in the 2020–2021 academic year and hence it is limited to this period of time.

1.6. Definitions of Key Terms

agent: "To be an agent is to intentionally make things happen by one's actions" (Bandura, 2001, p. 2).

autonomy: "Essentially, autonomy is a *capacity*-for detachment, critical reflection, decision-making, and independent action. It presupposes, but also entails, that the learner will develop a particular kind of psychological relation to the process and content of his learning" (Little, 1991, p. 4). Even though different definitions of the term of autonomy have been suggested, it is often considered as "the ability to take charge of one's learning" (Holec, 1981, p. 3 as cited in Little, 1991, p. 7).

behaviorism: “Behaviorism—as expressed in conditioning theories—dominated the psychology of learning for the first half of the twentieth century. These theories explain learning in terms of environmental events. Mental processes are not necessary to explain the acquisition, maintenance, and generalization of behavior” (Schunk, 2012, p. 114).

cognition: “Cognition refers to how information processed and learned by the human mind (the term comes from the Latin verb *cognoscere*, ‘to get to know’”(Ortega, 2013, p. 82).

foundation higher education institution: university established by the foundations provided that it is not for the purpose of profit and not run by the state although they receive grants such as state aid and tax reductions (Council of Higher Education, 2021a).

schema (plural, schemata): “the figurative aspects of thought - attempts to represent reality without attempting to transform it (imagery, perception and memory)” (Piaget, 1976, p. 14).

metacognition: “Metacognition—that is, cognition that reflects on, monitors, or regulates first-order cognition” (Kuhn, 2000, p. 178).

metamemory: “the study of what children and adults know about how to remember and about their own memory functions and how such knowledge relates to memory performance” (Kuhn, 2000, p. 180).

the microgenetic methods: “in which the process of change is observed directly as individuals engage in the same task repeatedly” (Kuhn, 2000, p. 179).

self-regulated learning: “Self-regulated learning (SRL) as the three words imply, emphasizes autonomy and control by the individual who monitors, directs, and regulates actions toward goals of information acquisition, expanding expertise, and self-improvement” (Paris & Paris, 2001, p. 89).

the zone of proximal development (the ZPD): “the amount of learning possible by a student given the proper instructional conditions” (Schunk, 2012, p. 500).

CHAPTER 2

2. LITERATURE REVIEW

The Literature Review section provides in-depth information relating to the concept of metacognition that lies at the heart of the theoretical background to the current study. Additionally, it presents a comprehensive summary of the examples of previous major studies that have relevance to the present study.

2.1. Metacognition

2.1.1. Definitions of metacognition

The term *metacognition* was first used by a developmental psychologist named John H. Flavell nearly half a century ago when he defined it as "cognition about cognitive phenomena" (Flavell, 1979, p. 906) following his pioneering work on children's monitoring their own memory and comprehension in the early 1970s (Kuhn, 2000). In the ensuing decades, many definitions for metacognition have been proposed by researchers studying in the field of cognitive, developmental, and educational psychology, and some of its prominent features can be capsulized in the following definitions:

- "the knowledge and control children have over their own thinking and learning activities" (Cross & Paris, 1988, p. 131).
- "Metacognition refers to the ability to reflect upon, understand, and control one's learning" (Schraw & Dennison, 1994, p. 460).
- "the ability to monitor one's current level of understanding and decide when it is not adequate" (Bransford et al., 2000, p. 47).
- "Metacognition is defined as the awareness of and knowledge about one's own thinking" (Zimmerman, 2002, p. 65).
- "Metacognition refers to higher order thinking which involves active control over the cognitive processes engaged in learning" (Livingston, 2003, p. 3).

- “Metacognition can be considered as a complex of phenomena related to knowledge about the domain of cognition – consisting of all the mental activities connected with thinking, knowing, and remembering – and its regulation” (Öz, 2005, p. 147).
- “By metacognition we mean any thinking act that operates on a cognitive thought in order to assist in the process of learning or the solution of a problem” (Holton & Clarke, 2006, p. 133).
- “learners’ knowledge, awareness and control of the processes by which they learn” (Noushad, 2008, p. 1).
- “Metacognition in the form of metacognitive knowledge (MK) —in this case, beliefs about learning — provides a database from which the learner can select strategies for the regulation of learning” (Efklides, 2009, p. 76).
- “Metacognition refers to deliberate, conscious control of mental activities” (Schunk, 2012, p. 342).
- “our knowledge about our memory and thought process” (Halpern, 2014, p. 53).
- “Metacognition is an inherently human characteristic, which allows people to solve novel problems in different contexts and is of particular usefulness in classrooms” (Perry et al., 2018, p. 11).
- “Metacognition includes all stages that ‘individuals experience before the learning process’, ‘during the process’, and ‘during the evaluation of the process’” (Boğar, 2018, p. 41).
- “Metacognition pertains to one’s awareness about and regulation of his cognitions” (Öztürk, 2018, p. 28).

All of the above-mentioned abundant remarks provide us to conclude that metacognition is one’s being cognizant of their own thinking processes in which one plans their approach towards achieving their learning goals, applies some appropriate strategies, monitors their progress, and ultimately evaluates their own strengths and weaknesses. Once a person becomes aware of their own thinking process through this inherent characteristic, they can start to materialize their thoughts, in other words, they make them an object of their thinking and thereby manipulating them. (Efklides, 2008; Holton & Clarke, 2006; Kuhn, 2000). Therefore, metacognition can simply and briefly be defined as “thinking about thinking” (Anderson, 2002, p. 2).

The prefix “meta” has a Greek origin and refers to “beyond” (Merriam-Webster, n.d.), obviously, giving it the power to offer comprehensive meanings to the words it is attached to. This being the case, the term metacognition naturally appears to have been used as an overarching term in the literature (Livingston, 2003). That may be one of the reasons why researchers so far have not managed to reach a consensus on the definition of this “fuzzy” term (Wellman, 1983, p. 32). It seems to be interchangeable with a variety of related terms such as “self-regulated learning” or “thinking skills” (Perry et al., 2018, p. 3), “learning to learn” (Wall & Hall, 2016, p. 407), “learner beliefs” (Wenden, 1999, p. 435) and “strategic and reflective thinking” (Moseley et al., 2005, p. 378). Furthermore, Veenman et al. (2006) report that the term metacognition has been proliferated and also commonly associated with the following terms: “metacognitive beliefs, metacognitive awareness, metacognitive experiences, metacognitive knowledge, feeling of knowing, judgment of learning, theory of mind, metamemory, metacognitive skills, executive skills, higher-order skills, metacomponents, comprehension monitoring, learning strategies, heuristic strategies, and self-regulation” (p. 4). Likewise, when the relevant literature in our country is examined, we also witness that the concept of metacognition finds its correspondence with so many different expressions in our language such as “biliş ötesi”, “yürütücü biliş”, “biliş üstü”, “üstbiliş”, “bilgiyi kullanma yolu” and “bilişsel farkındalık” (Kazu & Yıldırım, 2013, p. 324).

In addition to all those profuse and varied terms above, metacognition has also been associated with the concept of intelligence (Livingston, 2003). According to cognitive scientists, after all, intelligence is a sign of both cognitive and metacognitive mental processes (Sternberg, 1984). According to Hamers et al. (1999), “intelligence could be defined as a person’s ‘rough’ intellectual power, and thinking as the ‘skilled’ use of that power. In other words, thinking deals with how people use their intelligence and what they do with it” (p. 25). Veenman et al. (2006) do not make the equation between metacognitive skills and intellectual ability. However, they admit that although self-regulatory skills and intelligence correlate in a moderate way, metacognitive skills make contributions to learning performance “on top of intellectual ability” (p. 6). In other words, they conclude that intelligence can provide learners with an advantage over metacognition but that it does not have an impact on its developmental course (p. 8).

According to Veenman (2006), the reason for the pertinent literature yields some confusion as to a concise and precise definition of metacognition is that “the intricate

relations" (p. 5) between its multiple components. For example, feeling of knowing and judgement of learning are considered as metacognitive processes or one's knowing what to do and when to do it, that is, conditional knowledge is regarded as awareness of metacognition and declarative knowledge subcomponent. Fox and Riconscente (2008) also make a similar argument regarding the interplay between the subcomponents of metacognition. In their words, "metacognition and self-regulation are parallel and intertwining constructs that are clearly distinct yet mutually entailed both developmentally and in their functions in human thought and behaviour. Neither subsumes nor subordinates the other" (p. 386). Further, Dinsmore et al. (2008) made an analysis of the use of these three terms in the contemporary educational psychology literature, namely metacognition, self-regulation, and self-regulated learning, to "lift the conceptual haze" (p. 404). However, it appears that the three constructs are "nested within each other" (Kaplan, 2008, p. 478).

In fact, many researchers seem to agree on a difference between cognition and metacognition: while the former requires conscious mental processes to do a task, the latter needs to understand how to do the task (Schraw, 1998). As a matter of fact, Flavell (1979) himself also concedes that the knowledge of metacognition tends to store both cognitive and metacognitive strategies knowledge. Even though Flavell asserts that "cognitive strategies are invoked to make cognitive progress, metacognitive strategies to monitor it" (p. 909), he also points out that, in some cases, the same strategy might be brought into effect to attain both goals. According to Schraw (1998), cognitive skills are expressed within "domains or subject areas", but metacognitive skills encompass "multiple domains" (p. 116).

Veenman et al. (2006) discuss the issue of whether metacognition is general or rather domain-specific with an example. They compare a text studying with a problem-solving activity. For a text studying, metacognitive activities can be "reading the title and subheadings, scanning the text to get an overview, activating prior knowledge, and getting hold of test expectations" (p. 7). Alternatively, metacognitive activities for problem-solving may require a learner to read first the statement of the problem, activate their already existing knowledge, and understand what they are provided and what they are asked to do. Different learning tasks may seem to be evocative of those different activities. However, in Veenman et al.'s words, they "may spring from similar metacognitive grounds and their occurrence and quality may still be correlated across tasks and domains" (p. 7). Due to this overlapping feature of the two strategies, undoubtedly, it seems that disentangling metacognition from

cognition would prove futile thereby making the definition of the term remain elusive (Veenman et al., 2006).

All in all, when the pertinent scholarly literature is considered, where metacognition is originated, and when it is activated is still a matter of debate. Kuhn (2000) places metacognition in a developmental framework to get a better understanding its nature and significance and emphasizes that "it does not appear abruptly from nowhere as an epiphenomenon in relation to first-order cognition" (p. 178). According to Kuhn, the cognitive-developmental stage in which an infant begins to think about how other people might think and feel is "a developmental milestone" (p. 178) because that is metacognitive by nature. In Kuhn's words, "metacognition becomes more explicit, powerful, and effective, as it comes to operate increasingly under the individual's conscious control" (p. 178). In a similar vein, Zohar and Barzilai (2013) also agree that metacognitive awareness starts to "develop in early childhood and keeps developing throughout elementary school" (p. 153). According to Stewart et al. (2007), most of the research in the related literature holds a tacit assumption that one's regulatory skills are completely mature until one reaches adulthood.

2.1.2. A brief history of metacognition

Flavell (1979) coined the term metacognition and the notion has long been attributed to him but in fact it seems that he was not the first to study metacognitive processes (Noushad, 2008). In the early 1900s, researchers had already recognized the role of monitoring and control in the reading comprehension processes (Hudson, 2007). Strategy use was extended to some other specific disciplines and situated also in mathematics, science, and social studies owing to the notion that each subject area affords different frameworks for the organization of knowledge (Paris & Paris, 2001). Metacognitive knowledge was not widely known back in the 1950s when Benjamin S. Bloom developed the idea of the classification of educational goals to create banks of test items from simple to complex each measuring the same objective (Krathwohl, 2002). Since the 1960s, researchers have made attempts to gauge how the brain monitors the contents of memory (Bransford et al., 2000). From the 1970s, some theoretical models, unlike behaviourism, proposed how information was processed and began to include "a higher-order agent" monitoring and having a controlling influence on the cognitive processes, whilst running concurrently (Veenman et al., 2006, p. 5). The researchers supporting the notion that "metacognition has a higher order character" posited "increasingly metacognitive" stages of

thought as instruction programs foster students' thinking (Swarts & Perkins, 1990, p. 52). A number of scholars supported the notion that explicit metacognitive strategy instruction facilitates learning (Pintrich, 2002; Schraw & Graham, 1997; Scruggs et al., 1985). In the end, Bloom's framework was revised, and in 2001, metacognitive knowledge came to prominence as a fourth and a new category with some other subcategories, such as "strategic knowledge, knowledge about cognitive tasks including appropriate contextual and conditional knowledge, and self-knowledge" (Krathwohl, 2002, p. 214).

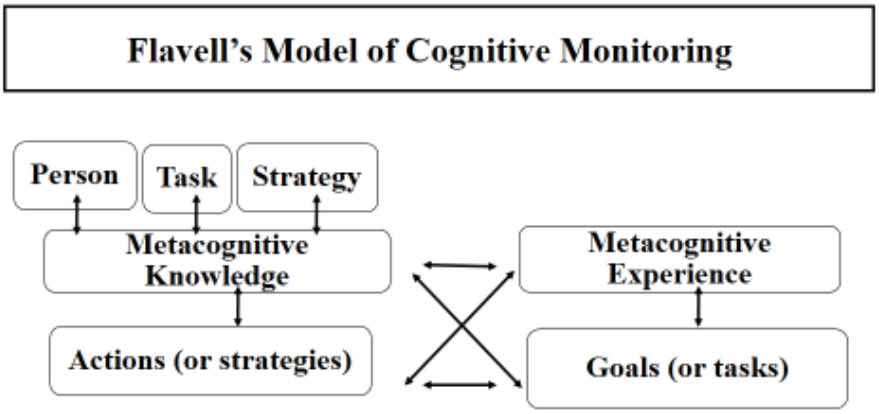
In summary, largely due to Flavell's seminal work on children's metamemory, the concept of metacognition has been elaborated and refined over the years and taken on significance in the literature (Noushad, 2008). Efklides (2008) points out that currently there are three major areas of research on metacognition: research in developmental psychology focusing on the theory of mind, research in experimental and cognitive psychology with an emphasis on metamemory, and research in educational psychology with an interest in self-regulated learning (p. 277). This variety of lines of research seems to have turned the concept into "a many-headed monster" (Brown, 1987, as cited in Noushad, 2008, p. 3). And taming it is "still a matter of hot debate" and hence "disagreements over its function and scope" (Proust, 2010, p. 989) seems to contribute to its vague definition. After all, the conceptualization of "a multidimensional phenomenon" (Schraw, 1998, p. 113) seems to have tempted researchers to construct some diverse theoretical models (Boğar, 2018, pp. 45–50) by clarifying its specific components or portraying emphasis on the different ones. Below is a short review of the major models of metacognition.

2.2. Models of Metacognition

2.2.1. Flavell's model of cognitive monitoring

Flavell (1979) provides an initial list of main components of metacognition and his proposal includes the following: "(a) metacognitive knowledge, (b) metacognitive experiences, (c) goals (or tasks), and (d) actions (or strategies)" (p. 906). However, in his notable article "Metacognition and Cognitive Monitoring", he discusses goals and actions under the two basic dimensions- "metacognitive knowledge and metacognitive experiences" (p. 906). Figure 2.1 shows that the four components of Flavell's metacognitive model and how they influence one another:

Figure 2.1. Flavell's Model of Cognitive Monitoring



Note. Adapted from "Metacognition and Cognitive Monitoring: A New Area of Cognitive Developmental Inquiry," by J. H. Flavell, 1979, *American Psychologist, 34*(10), pp. 906–911. Copyright 1979 by the American Psychological Association.

Flavell (1979) defined metacognitive knowledge as the segment where one's world knowledge is stored. Flavell set an example: children can come to believe that quite unlike their classmates they excel in arithmetic than spelling (p. 906). According to Pintrich (2002), this is a "new category of knowledge in the revised taxonomy" and it encompasses knowing about the processes of thinking in general as well as awareness of and knowing about one's own cognitive functions (pp. 219–224).

As stated by Flavell (1979), knowledge of metacognition includes mainly three major variables: "person, task, and strategy" (p. 906). The person subcomponent pertains to "the nature of yourself" (p. 907). For Schraw (1998), this is declarative knowledge; "knowledge about oneself as a learner and about what factors influence one's performance" (p. 114). According to Livingston (2003), this variable concerns how humans learn both in general and individually. For example, one's awareness of the distracting things while studying may lead them to end up somewhere more silent and thus to make them more successful. Thus, the regulating one's own behaviour can result in better academic performance (Young & Fry, 2008).

As noted by Flavell (1979), the task variable is the task's nature ranging from easy to more complex and demanding ones. To clarify, it is much less challenging to remember the general information about a story than to repeat it word for word with its details (p. 907). Another example would be one's awareness of the fact that the task of reading a scientific text is more challenging than that of a novel (Livingston, 2003). In a similar vein, Pintrich

(2002) draws particular attention to that the knowledge of tasks considered as easy or difficult will require a strategy accordingly. In his example, he highlights the different nature of two dissimilar tasks: in a recognition task, it is quite easy for an individual to see the difference between alternatives and choose the right answer whereas, in a recall task, searching the mind for the retrieval of correct or suitable information is comparatively more challenging.

According to Flavell (1979), metacognitive experiences are "any conscious cognitive or affective experiences" which can be "brief or lengthy in duration, simple or complex in content" (p. 908). For example, a person suddenly may feel like not having grasped the other person's words. Flavell proposes that metacognitive experiences will probably be present in situations where "a lot of careful, highly conscious thinking" (p. 908) is activated and the kind of quality control is demanded.

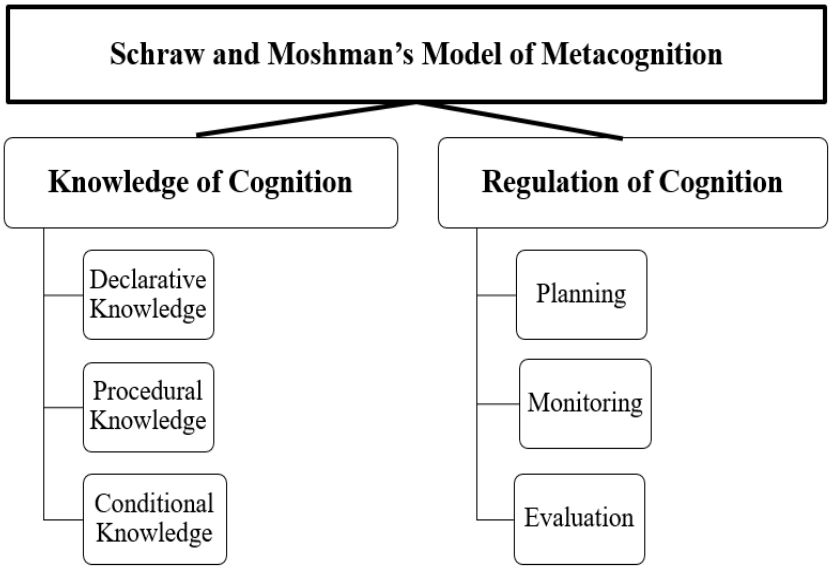
According to Flavell (1979), metacognitive experiences can direct one either to reconsider their previous goals or omit them, and apply modifications of their strategies, or, if necessary, set new ones. In other words, a learner may monitor and become in control of their cognitive processes and they may come to realize that a specific strategy does not assist to obtain some learning outcomes that were initially set. The learner may eventually make a decision to abandon it and follow a new strategy. Therefore, metacognition is also, in a way, in charge of further learning activities. Livingston (2003) illustrates that understanding the meaning of a paragraph in a text can be a cognitive goal of a learner. To achieve this particular goal, they can start to think about how well they have comprehended the paragraph they have just read. They may determine a strategy such as self-questioning. They take steps based on the feedback obtained from their monitoring process: they may re-read the paragraph, or decide to use a dictionary. In short, they take control of their learning process to make sure that they comprehend the text well.

2.2.2. Schraw and Moshman's model of metacognition

More than a decade after Flavell (1979) introduced the concept of metacognition, Schraw and Dennison (1994), two educational psychologists, developed an inventory with 52 items to gauge the metacognitive awareness of adolescents and adults. The easily administered self-report instrument is currently known as "the Metacognitive Awareness Inventory or the MAI" (p. 462). Following this, Schraw and Moshman (1995) proposed a model of metacognition with a multidimensional construct. They further divide this

dimension into three fundamental subcategories: declarative, procedural, and conditional knowledge. Figure 2.2 demonstrates its basic two components and their subcomponents:

Figure 2.2. Schraw and Moshman's Model of Metacognition



Note. Adapted from "Metacognitive Theories," by G. Schraw and D. Moshman, 1995, *Educational Psychology Review*, *7*(4), pp. 351–371. Copyright 1995 by Plenum Publishing Corporation.

For Schraw and Moshman (1995), declarative knowledge pertains to individuals' knowledge about their own cognition or about the factors that may have an effect on their cognitive processes (p. 352). It is about knowing "about oneself as a learner" (Schraw, 1998, p. 114) and it includes the personal history or facts and the knowledge one has accumulated. One is consciously aware of his or her understanding of this kind of knowledge. Schraw and Moshman (1995) note that studies examining metamemory reveal that "adults have more knowledge about memory-related cognitive processes than children" (p. 352).

According to Schraw and Moshman (1995), procedural knowledge is about knowing "how" to do things and it includes knowledge of executing skills (p. 352). One example could be knowledge of how to categorize newly learned pieces of information or how to use a chunking strategy to help remember them (Schraw, 1998, p. 114). Another example could be when one drives a car and one does this action but is not able to explain it in words. According to Schraw (1998), this is because people who have a good level of procedural knowledge usually tend to "perform tasks more automatically" (p. 114). Schraw highlights

this knowledge is often associated with strategies. These people most probably have a good knowledge of strategies and tend to select among the extensive repertoire of strategies and use them effectively.

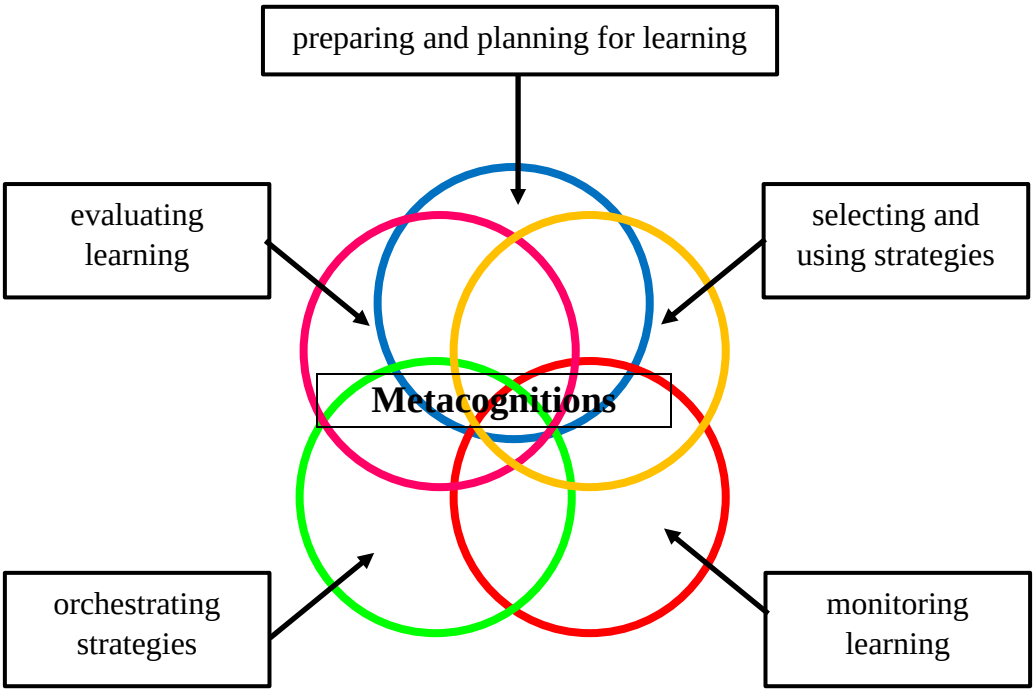
Conditional knowledge involves knowing the when and why to use the two aforementioned knowledge-declarative and procedural. Conditional knowledge is essential because it helps a learner when they should apply a particular strategy. This type of knowledge allows one to make adjustments to different task demands.

Metacognitive regulation is the other broad dimension of metacognition in Schraw and Moshman's model of cognition. It pertains to a number of activities that allow learners to master their own learning. Those regulatory skills subsume some necessary skills such as planning, comprehension monitoring, and evaluation (Schraw, 1998, pp. 114–115). Planning refers to thinking about the learning goals and how to approach the task and choose appropriate strategies to achieve those goals. Making predictions before starting to read can be set as an example for this. "The skills that might be attributable to planning are, by and large, setting goals, selecting appropriate strategies, and scheduling time and strategies" (Balçıkanlı, 2010, p. 16). Planning is important, as a matter of fact, a meta-analysis conducted by Dent and Koenka (2016) through 61 studies revealed that planning had the strongest correlation with achievement. Monitoring refers to one's implementing the plan and becoming so aware of the progress that some necessary changes to the strategies may be made when necessary. "Detection of errors in passages, self-corrections during oral reading, and retrospective or concurrent verbal reports (i.e., thinking aloud)" (Baker & Cerro, 2000, p. 102) can be some typical examples for the ability to take regular self-testing during one's monitoring comprehension process. Learners with higher metacognitive awareness and better metacognitive skills have the performance of higher efficiency in their cognitive processes (Baker, 1994). And finally, evaluating refers to an individual's forming an idea of efficiency of their own learning (Schraw, 1998). In other words, one judges the quality or value of their own learning performance. Balçıkanlı (2010) regards evaluating as skills that may "include re-evaluating one's goals and conclusion upon the completion of a task" (p. 17). Schraw and Dennison (1994) state that all these components of metacognition have strong correlations and complement one another. Further, it is often assumed the interaction of all these components is necessary for "successful information processing" (Schneider, 2008, p. 114).

2.2.3. Anderson's model of metacognition

Anderson (2002) regards metacognition as "the real key to learning" and divides it into five primary components that intersect with each other: "(1) preparing and planning for learning, (2) selecting and using learning strategies, (3) monitoring strategy use, (4) orchestrating various strategies, and (5) evaluating strategy use and learning" (p. 3). This model of metacognition highlights a non-linear process and blends all five into "a kaleidoscopic view" (Anderson, 2008, p. 104). The series of processes in which one does not necessarily directly follow the other one can be seen in Figure 2.3 below:

Figure 2.3. Anderson's Model of Metacognition



Note. From "Metacognition and Good Language Learners," by N. J. Anderson, in C. Griffiths (Ed.), *Lessons from Good Language Learners* (p. 100), 2008, Cambridge University Press.

Preparing and planning are necessary for learning effectively and refer to setting oneself a series of goals to reach (Anderson, 2002). In a language class, for example, the teacher may as well activate the prior knowledge of the students to prepare them to better comprehend a reading text (Anderson, 2008). Ultimately, this view has been supported by

the implications on schema theory, according to which text comprehension involves one's constructing meaning from the knowledge of the world previously accumulated (Carrell & Eisterhold, 1983, p. 553).

Selecting and using strategies is another component in this model of metacognition. Anderson (2002) relates it to the metacognitive ability of the learner to choose the right strategy for a particular goal, which shows that he or she makes informed decisions on their learning process. To illustrate, a second language reader can take an unknown word out of its contextual meaning, or analyse it with prefixes or suffixes. Monitoring learning is another consideration in Anderson's model of metacognition. It concerns the attempts of the learner to keep the right track to attain their goal. Rubin (1975) defines it as a strategy that shows a good language learner participates actively while processing information (p. 47).

According to Anderson (2002), orchestrating strategies is another vital metacognitive skill and it means getting hold of an understanding of the availability of multiple strategies. A good language learner should be able to engage some strategies with others while doing a task (Anderson, 2008, p. 101). Evaluating learning is the last element discussed in Anderson's model of metacognition, and it relates to reflecting on the whole cycle of five aspects of metacognition mentioned earlier (Anderson, 2002).

2.3. Metacognition in Learning and Teaching

According to Senemoğlu (2010), the most challenging issue for an infant is to make sense of the world. Since it is exposed to a huge amount of knowledge, it tries to identify the fully functional piece through thinking, reasoning, and judging. It endeavours until it finds a solution. This whole process provides it with the joy of learning as well as success.

Piaget was a pioneer in positing this process, that is, how knowledge evolved, and claimed infants progress through developmental changes in four discrete stages due to their biological maturation and interaction with the environment (as cited in Senemoğlu, 2010). In Piaget's (1976) words, "cognitive adaptation, like its biologic counterpart, consists of an equilibrium between assimilation and accommodation" (p. 18). In other words, as cited by Senemoğlu (2010), Piaget designated cognitive development as an active process, in which the infant, child, and adolescent adapt to their environment and strive to maintain a sense of balance with prior and new knowledge. In other words, the infant is an active recipient of the environment, that is, it is actively involved in constructing knowledge over the course of the life span (pp. 32–53). According to Kuhn (2000), the infant's starting to think how other

people might think and feel is “a developmental milestone” since it is metacognitive by nature (p. 178). Piaget (1976) contributed to the explanation of not only to “the adaptation of an organism to its environment” but also to that of “the adaptation of intelligence” (p. 11). Hence, Senemoğlu (2010) implies that Piaget could be regarded to be the precursor of the notion that intelligence is not a fixed trait. This is due to the fact that both the organism and the environment are constantly changing. In other words, the mental representation of the world changes as the infant biologically grows mature. These cognitive representations are called schema (pp. 34–38). As a consequence, research particularly on reading comprehension introduced “schema theory” (Carrell & Eisterhold, 1983, p. 553) which enabled us to gain insights into “that the reader is required to fit the clues provided in the text to his or her own background knowledge” (Nunan, 1999, p. 257).

According to Schunk (2012), unlike Piaget, Vygotsky gave prominence to social environment and held “the social mediation of learning and the role of consciousness” in high esteem (p. 241). From the perspective of Vygotsky’s sociocultural theory, learners are supposed to gradually take their responsibility and self-regulate their own thought processes and actions so that they can perform more independently (Senemoğlu, 2010). Piaget and Vygotsky’s views provided the base for the constructivist movement through taking cognitive development further in the ensuing years (Schunk, 2012).

According to Kuhn (2000), Flavell pioneered the discourse of metacognition when virtually all the research on metacognition was limited on metamemory. Since then, its scope has been extended to the studies on “reading comprehension, problem-solving, and reasoning in addition to memory” (p. 180). Thanks to “microgenetic studies” (p. 179), we currently know that we have a bunch of various strategies with different adequacy that we use for the same problem in a different way. Over forty years ago, Flavell (1979) conceived of a time when the ideas brewing in metacognition would transform into “a method of teaching children (and adults) to make wise and thoughtful life decisions as well as to comprehend and learn better in formal educational settings” (p. 910). Numerous subsequent studies have developed and matured (Veenman et al., 2006) and now they seem to justify him in this regard; a high number of researchers agree on the notion that metacognition has a major role in effective learning (Anderson, 2002; Kallio, et al, 2017; Lai, 2011b; Livingston, 2003; Noushad, 2008; Öz, 2005; Öztürk, 2018; Paris & Winograd, 1990; Perry et al., 2018; Schraw & Graham, 1997; van der Stel & Veenman, 2008; Wang et al., 1990).

Since the original taxonomy (Krathwohl, 2002), a great many studies consistently have reported a close and strong association between metacognition and effective learning and provide a wide range of topics in many different discipline domains (Veenman et al., 2006). A systematic review carried out by Zohar and Barzilai (2013) revealed that studies in science education increasingly received a wide range of metacognitive instruction. They claimed that metacognitive instruction was employed for developing students' "reading, problem-solving, or higher order thinking skills as well as students' knowledge and conceptual understanding" (pp. 121–122). Another bit of evidence came from the research reported by Şahin and Kendir (2013). They identified the positive effect of metacognitive strategy use in solving problems on geometry as a result of a study with an experimental method. In another illustrative study, Casselman and Atwood (2017) revealed the importance of metacognitive instruction in chemistry. Their study was carried out with first-year undergraduates and metacognitive instruction was conducted as an online assignment utilizing the flipped classroom methodology. The students' receiving metacognitive training led to an increase in their assessment performance on their' next exams. Similar findings have also been reported in the area of language learning. For example, O'Malley et al. (1989) did research on listening comprehension of high school age students enrolled in English language classes. The findings revealed that the effective listeners had the distinction of using three predominant metacognitive strategies, namely, self-monitoring, elaboration, and inference. In short, the abovementioned example studies including subject areas in which thinking skills are at the core, such as science, mathematics, reading comprehension, language learning and so forth, converge at the same notion that metacognition can promote learning and improve academic performance (Kuhn, 2000; Paris & Winograd, 1990; Young & Fry, 2008).

On the other hand, another point worthy of consideration is that metacognitive knowledge can be "fallible" (Wenden, 1987, p. 574). Efklides (2009) defines metacognitive knowledge as "beliefs about learning" (p. 76) and these beliefs gained by the human agency can be misguiding. This view has been reinforced by a study conducted by Kruger and Dunning (1999). They asked a group of undergraduates to complete a grammar test and estimate their correct answers. The results revealed that particularly the ones who do not have much practical knowledge and experience mismatch their estimation with their own ability and performance and that a deficit in metacognitive skills may lead to making wrong choices. To put it another way, it is more likely that students with inaccurate knowledge of

what they know will unable to seek out ways to fill their gaps, in a sense, they would fail to make a correct "calibration to self-regulation" (Hattie, 2013, p. 62). In other words, "the use of this knowledge" seems necessary "to direct further learning activities" (Halpern, 2014, p. 27).

2.4. Metacognition and Second Language Learning and Teaching

Over four decades ago, Rubin (1975) attempted to specify the good qualities that language learners are endowed with. Nearly a decade later, Rubin and his colleague took a step further and presented a condensed version of those characteristics with 14 distinctive features (Rubin & Thompson, 1982, as cited in Brown, 1994, p. 104). As a consequence, a deeper insight was provided into the difference between the training of the learner and teaching of the language thereby calling attention to the notion that the former concerns "the underside of teaching" (Wenden, 1998a, p. 2), or learning. This gave rise to research on the promotion of effective learning. In other words, the initial attempts of Rubin (1975) led to a distinction between styles, which "vary across individuals", and strategies, which "vary within an individual" (Brown, 1994, p. 104). Over time, they all evolved into "three '*A*s' of learner development: autonomy, awareness, and action" (Brown, 2007, p. 130). Before long, the role of metacognition was recognized as a fundamental element in learning second languages (hereinafter referred to as SLL) and essential in the development of autonomous learners (Wenden, 1998b).

Flavell (1979), the forerunner of metacognition, also approves, with little empirical evidence though, "the important role of metacognition in oral communication of information, oral persuasion, oral comprehension, reading comprehension, writing, language acquisition, attention, memory among various others" (p. 906). Flavell (1992), laid emphasis on the nature of the cognitive role of the learners that "makes them to a large degree the manufacturers of their own development" (p. 998). Flavell posited that a child processes the present material to be obtained, used, or reached, and selects from among the meaningful data, thereafter transforms what is chosen in line with their own needs. O'Malley and Chamot (1990) also supported the view that second language learning requires an "active and dynamic" use of processes of cognition (p. 143). In other words, to fulfil a language task requirement, an active and conscious process is necessary to construct meaning by using knowledge gained so forth while relying on a bunch of strategies. To illustrate, Wenden (1987) characterizes the active cognitive involvement in learning a second language process

through the views of an adult learner as: “My mind is always open to accept information about the language … I always concentrate because I have to learn … I just don’t take it as it comes. I change it in my mind. There’s always movement” (p. 573). This quotation as well calls attention to the assumption that successful language learners are often considered to be good strategy users who can naturally “utilize a dozen strategies for figuring out” (Brown, 2001, p. 210) what is going on even in a simple daily event.

According to Oxford (2011), strategy refers to “a systematic plan for achieving any goal” (p. 168) and she implies that cognitive learning strategies can assist one to attain their goal of learning an additional language. As a matter of fact, a number of comprehensive taxonomies of learning strategies have already been offered to instil strategic competence in language learners (O’Malley & Chamot, 1990; Oxford, 2002). The learning strategies, particularly in the field of SLL, often fall into “three broad categories: cognitive, metacognitive, and social/affective strategies” (Brown, 1994, p. 115). To put it in a nutshell, while the first category refers to what actually learners know about the set of facts and skills they have accumulated in different situations about their own learning process, the second category refers to how they select strategies and evaluate them (O’Malley et al., 1989, p. 422). And finally, the third one entails interaction with others, that is, in Brown’s words, “communication strategies” (Brown, 1994, pp. 115–118). According to Cohen and Wang (2018), a language learner may combine the abovementioned three categories of strategies while implementing a strategy of confirming the meaning of an unknown word with “a more knowledgeable speaker of a language” (p. 171). To clarify, when the learner begins to plan how to carry out the task, the strategy could take on a metacognitive function. Next, when the learner engages with the task of verifying the meaning of the unknown word, it could take on a social or affective function. Finally, when the learner deals with comprehending the speaker’s oral explanation, it could take on a cognitive function.

There are some other researchers who also put an emphasis on metacognition and its merits in second language learning. For example, Wenden (1999) handles the issue of the role of knowledge in SLL in terms of linguistic, social, and cognitive theories, namely, domain, social and metacognitive knowledge. Wenden provides some modifications and expansions on the two- dimensional taxonomy of metacognition adding another dimension to the person component of Flavell (1979): “affective attributes and states which are felt to facilitate or inhibit learning” (Wenden, 1987, p. 576). It is plausible that some incidents evoke some feelings. Wenden sets an example of that a student may feel embarrassed when

he or she is suddenly asked to speak loudly. Additionally, the personality traits may also cause some feelings. For example, a shy student may avoid making a speech in front of their classmates.

Wenden (1999) uses the term "learner beliefs" (p. 436) interchangeably with metacognitive knowledge. Wenden draws attention to metacognitive knowledge, and particularly to the role it plays in assisting the monitor and control of learning. However, unlike Flavell (1979), Wenden (1987) points out the "fallible" (p. 574) aspect of this knowledge. She attributes it to the fact that it is highly improbable to get a perfectly accurate gauge of what the declarative knowledge of a person is. By doing so, she makes significant implications that metacognitive knowledge plays a crucial role in assisting learning. To clarify, students who are savvier about estimating their ability and performance will probably see the gap in their knowledge and take action accordingly. Or, to put it another way, students with disinformation on their metacognitive knowledge are unlikely to get better at fixing their mistakes.

According to Wenden (1987), another reason why metacognitive knowledge is not always exactly correct may be due to the fact that this gradually growing accumulated knowledge may change one's perspective on language learning. In other words, it is "interactive" (p. 574). For example, when compared with one's beginning states of second language learning, his or her "cluster of beliefs about learning" (Wenden, 1999, p. 441) may transform over time, and abilities in language may get better over the lifespan of the individual. This would obviously lead to their more proficiency in language use, as well as, to their more positive approach to language learning (Brown, 2001, p. 210).

Accordingly, metacognitively thinking about language will probably determine the way how one navigates language tasks (Brown, 2001; Wenden, 1987). For O' Malley and Chamot (1990), "strategy use is highly task-dependent" (p. 144). In essence, one needs to pre-plan to complete a language learning task by specifying their objectives, deciding on the selection of resources and strategies, predicting difficulties. Then, they need to monitor and this planning-in-action and evaluate, and revise it if need be. In short, Wenden (1987) underscores "a reciprocal relationship" (p. 582) between metacognitive knowledge and regulatory skills or metacognitive strategies by arguing that strategy use brings about changes in beliefs, they, in turn, demand amendments in the use of strategies, and so on in an ongoing fashion.

Currently, the pertinent literature provides substantial evidence for the effect of the strategy instruction, particularly within the context of SLL. For example, O'Malley et al. (1989) did research on listening comprehension of the students enrolled in English language classes at a high school. The findings revealed that the effective listeners had the distinction of using three predominant metacognitive strategies, namely, self-monitoring, elaboration, and inference. In a similar vein, a study conducted by Palincsar (1984) with middle school students revealed that reading comprehension and comprehension monitoring skills were developed through a metacognitive approach, in which major strategies such as summarizing, questioning, clarifying, and predicting are modelled. Cer (2019) also provided evidence by a study, the results of which indicated that metacognitive strategy intervention benefited the writing skills of secondary school students.

According to Takeuchi (2019), research on how to design and implement strategy instruction has resulted in a number of ways of strategy-based interventions. They can be exemplified by "Cognitive Academic Language Learning (CALLA), Styles- and Strategies-Based Instruction (SSBI), Strategies Content Learning (SCL), and Integrated Strategy-Based Instruction (ISBI)" (pp. 683–699). Researchers seem they will continue to pursue their own lines of inquiry into what best enhances learning efficiently and independently because they have already replaced second language learning strategies with self-regulation.

2.5. Metacognition and Teachers

2.5.1. Scaffolding role of teachers

According to Bandura (1989), the psychological mechanisms of human agency can effect a change in the way that they behave by putting into efforts and they can also be an influence over their environment and likewise environmental influences can also animate a person to take action. This view underscores the social cognitive theory, which suggests providing opportunities through "fostering expectations, self-efficacy and using observational learning and other reinforcements to achieve behaviour change in a learner" (Schunk, 2012, p. 246). By means of the two important concepts that have arisen from the social cognitive theory, that is, scaffolding and the zone of proximal development (henceforth referred to as ZPD), teachers' role is of paramount importance in students' transformative process to "become strategic, motivated, and independent learners" (Paris & Paris, 2001, p. 89).

Holton and Clarke (2006) regarded that scaffolding plays out when “a bridge is formed between the instructional support a teacher might provide and the learner’s self-control of the learning process” (p. 127). They illustrated the process of scaffolding by analogy with the scaffold used in the construction of a house. That structure is for workers to stand on so that they can reach high parts of a building. In the same way, it can be applied as a supportive tool in educational settings. Initially, the teacher assumes more responsibility, but in time, they monitor the progress, set the necessary goals, and eventually plan the activities and do so on a regular basis until the students reach their level of potential development. Just as similar to the house which is stable and strong enough, the scaffold becomes less necessary and is gradually removed, the student assumes gradually more responsibility for these cognitive processes and, in the end, receives by no means the assist from the teacher. In other words, he or she becomes an independent learner.

As for the ZPD, it is defined as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers (Vygotsky, 1978, p. 86)” (Schunk, 2012, p. 243). This area is viewed as where the teacher should provide instruction or guidance in a sensitive way (Holton and Clarke, 2006). In such an assisted learning process of scaffolding, while Schunk (1989) draws attention to that peer students can often model cognitive and metacognitive skills in a better way compared to the teacher in the learning process, Hamers et al. (1999) point out that “language plays an important role in this process” (p. 15). As noted by Schunk (2012), Vygotsky as well puts an emphasis on the social environment and the role of language in social interactions by which he presupposed that through internalization, an individual can develop self-regulation. In this respect, Holton and Clarke (2006) draw attention to that cognitive scaffolding may not be “restricted to language” because it may as well be supplied “in book form, over the internet, by telephone ... by looks and gestures” and so forth (p. 130). Therefore, they regard scaffolding as “an act of teaching that ... supports the immediate construction of knowledge by the learner; and ... provides the basis for the future independent learning of the individual” (p. 131).

2.5.2. Metacognitive modelling of teachers

What Holec put forward four decades ago was that "the ability to take charge of one's own learning is not inborn but must be acquired either by 'natural' means or by formal learning, i.e. in a systematic, deliberate way" (Holec, 1981, p. 3 as cited in Little, 2007, p. 16). This implies the metacognitive instruction to promote it in educational settings.

Drawing on the related literature on metacognitive instruction, Veenman et al. (2006) provide the following three basic principles for successfully implementing metacognitive instruction: "embedding metacognitive instruction in the content matter to ensure connectivity, informing learners about the usefulness of metacognitive activities to make them exert the initial extra effort, and prolonged training to guarantee the smooth and maintained application of metacognitive activity" (p. 9).

In this context, Holton and Clarke (2006) propose three kinds of scaffolding. The first one is expert scaffolding that often refers to "a teacher in the widest sense of the word" (p. 134). Ultimately, the teacher, compared to students, has three prominent categories of knowledge; "subject-matter knowledge, pedagogical content knowledge, and curricular knowledge" (Soodla et al., 2016, p. 203). The instructor is also supposed to create a classroom that supports the learners to use, explore and develop their metacognitive skills, which "do not exist in a vacuum" (Schraw, 1998, p. 121). This scaffolding enables learners to derive "tremendous benefit" from metacognitive instruction by constructing new knowledge (Schraw, 1998, p. 122).

The second type of cognitive scaffolding, as stated by Holton and Clarke (2006), is reciprocal scaffolding. Schunk (2012) notes that reciprocal teaching, when a Vygotskian perspective is taken into account, reflects learners' interaction socially and their scaffolding as they improve skills slowly over a period of time. According to Palincsar (1984), reciprocal teaching can simply be defined as a dialogue that interactively takes place between the teacher and a number of learners. In the beginning, the teacher models a strategy, and later on the learners take turns as if they were a teacher. They are expected to teach the key strategies to their peers. In this respect, Lai (2011a) as well maintains that peer collaboration can serve an instructional function; these shared social interactions can enable learners to attain competence in dissolving their cognitive conflicts.

Self-scaffolding, as defined by Holton and Clarke (2006), is the third situation in which an individual participates in tackling a problem of their own. For them, metacognition

involves solving problems. This is because metacognition is a type of "purposeful thought" and "mediates between the learner and their cognition" emerging in the conflict that arises when a new, more challenging piece of learning takes place. Therefore, this last type of scaffolding is particularly essential for the individual to eventually become fully autonomous learners. That is why Holton and Clarke maintain that "there is essentially very little difference between acts of scaffolding and acts of metacognition" (pp. 138–141).

In addition, Ellis et al. (2012) state that many studies define modelling as "the teacher modeling the strategy visually and through verbalization" (p. 17) and also involves making an explanation on the benefit of the strategy. According to Zohar and Barzilai (2013), metacognitive modelling is the practice in which the teacher makes it clear for students "how he/she activates and applies metacognitive knowledge and metacognitive skills in the course of learning" (p. 136). In the same manner, Pintrich (2002) as well puts an emphasis on "the modelling of strategies accompanied by an explanation" (p. 224). He notes that "as experts in their field, teachers have all kinds of implicit knowledge about strategies and when and why they are appropriate to use" (p. 224). For this reason, he suggests teachers designing instruction around metacognitive knowledge through classroom discourse and discussion, modelling, or explicit instruction. Otherwise, he draws attention to the possibility that a class would be like "opaque" (p. 223) glass; students might fail to gain access to this strategic knowledge and find learning difficult. In fact, this makes sense when we consider that "metacognition often takes the form of an internal dialogue" (Bransford et al., 2000, p. 21). In this context, think-aloud procedures can be used by teachers as one of the teaching strategies among many for students to gain metacognition (Zohar & Barzilai, 2013, p. 128). This approach is an instructional practice that involves the teacher talking loud about what he or she is thinking while doing the tasks in the class (Ellis et al., 2012).

Swarts and Perkins (1990) as well placed a high priority on teachers' explicitly raising the awareness of the thinking processes and gradually scaffolding them in becoming an independent learner. Further, they proposed a well-designed instruction program to introduce students to metacognition and posited four stages of thought. While "tacit use" refers to the individual without thinking about it, "aware use" refers to his or her thinking consciously. The third one, "strategic use" refers to the organization of his or her thinking through some specific conscious strategies that foster the thinking process. And finally, reflective use refers to the individual's "thinking before and after—or even in the middle of—the process, pondering how to proceed and how to improve" (pp. 51–54). In this respect,

they argue that learners can become metacognitive and thus take charge of their own thinking. In other words, in a sense, this program provides a useful framework for teachers in the way that they can identify where their students are on this continuum of four stages and hence they can plan and act their teaching accordingly.

To conclude, as observed by Hartman (2001), teachers' use of metacognition in their instruction implies a twofold mission. While "teaching with metacognition", whereas teachers need to think about the ways for their effective teaching, while "teaching for metacognition", they also need to get into their students' heads thereby triggering the metacognitive knowledge and skills of their students" (p. 149). In other words, they often end up becoming themselves as learners.

2.6. Related Studies in the Literature

The current literature yields relatively limited studies on adults' and teachers' metacognition compared to the studies conducted with children, adolescents (Stewart et al., 2007). However, during the past decade, a number of notable efforts have been undertaken to primarily take into consideration the metacognitive awareness of teachers (Hartman, 2001). Accordingly, not many researchers are optimistic about the metacognitive awareness level of teachers (Kurtz et al., 1990). Yet among those who study the metacognitive development in professional educators, there is considerable interest in its merits that could scaffold students' metacognition and equip them with skills of being responsible for their learning and the recent literature confirms that research on teachers' metacognition is in full swing. The following are studies conducted at home and abroad that are relevant to teachers' metacognition and given in historical order.

Stewart et al. (2007) conducted research to test the tacit assumption in the literature that metacognition skills are fully developed by adulthood. The participants were 214 volunteers from a higher education institution in Utah, the United States of America: 123 were graduates, who were experienced teachers working towards their MA, and 91 pre-service teachers at the same institution. Their age ranged from 19 to 57. The Metacognitive Skills Inventory for Adults (the MAI) (Schraw & Dennison, 1994) instrument was utilized to discover whether metacognition increases naturally with age after adolescence and whether their awareness of metacognition increases according to years of teaching experience, excluding undergraduate teachers-in-training. They also tested two more

variables of interest; gender and grade levels that experienced teachers practise teaching. One finding was that metacognitive awareness of the teachers who had more teaching experience was higher compared to the pre-service teachers' metacognitive awareness. The results also showed that there was a strong correlation with age when knowledge of cognition, regulation of cognition, and the total MAI score were taken into account among the pooled group, the 214 participants. Knowledge of cognition had no difference according to years of teaching experience, but metacognitive regulation and the MAI score in total did so. The results indicated that regulation of cognition was the subcomponent contributing to increased metacognitive awareness among graduate practicing teachers. Knowledge of cognition had a tendency to stay constant even as the years of schooling increased. There were not any gender differences among all the participants or any among the grade levels taught.

Çubukçu (2008) carried out research with 130 third-year volunteers (15 males and 115 females) at a state university in İzmir, Turkey. The participants were the trainee teachers from the English Language Department. The study had an experimental design. Half of the participants received a five-week metacognitive strategy instruction while the other half did not take any training at all. Instruction incorporating metacognitive strategies resulted in an increase in trainees' vocabulary knowledge and the comprehension of reading expository texts.

Young and Fry (2008) carried out a study with a total number of voluntary 178 participants in Southeast Texas, the USA. The participants were 133 undergraduates at junior and senior level in teacher education classes and 45 graduate students in MA Program. The study had a survey design. The MAI instrument developed by Schraw and Dennison (1994) was utilized to discover the relationship between the participants' metacognitive awareness and their academic achievement via their Grade Point Average (GPA) scores. The instrument was implemented in a total of 15 classes, the majority of which was delivered online. The results revealed that metacognitive knowledge and regulation of cognition scores correlated significantly. In addition, with regard to metacognitive regulation, graduates and undergraduates differed whereas the knowledge of cognition did not differ.

Memnun and Akkaya (2009) conducted a study with 263 trainee teachers (106 males and 157 females) in the Primary School Teacher Training Department at a state university in Bursa, Turkey. The number of the student teachers according to their grade levels were as follows; 63 (freshmen), 68 (sophomores), 62 (juniors), and 70 (seniors). The study had a

survey design. The data were gathered by the Turkish adapted version of the MAI (Schraw & Dennison, 1994). The results showed that most of the trainees had a high level of metacognitive awareness, whereas nearly 34% showed a lower level. Another result demonstrated that whereas less than half of the first-year trainee teachers' metacognitive awareness was high, that of the three-fourths of senior students was high. In addition to these results, no significant difference among the pre-service teachers was found according to gender.

Through mixed research, Balçıkanlı (2010) examined how social networking affects the metacognitive awareness of English teacher candidates and the way they teach. Balçıkanlı collected the quantitative data from the teachers-to-be from a state university in Ankara, Turkey, by having devised an inventory merely for teachers, namely, the Metacognitive Awareness Inventory for Teachers (the MAIT). In addition, the qualitative data of the study were obtained through some reflection tools such as "weekly reflections, peer-evaluations, stimulated recall sessions" (p. 54). The results revealed that the trainee teachers' awareness increased significantly in their metacognitive regulation rather than their knowledge of cognition and that the use of social networking had an influence on teaching practice. The study revealed that the reflection tools such as weekly reflections, peer-evaluation, Facebook as a storage tool made a substantial contribution to the teacher trainees' enhancement of the metacognitive awareness in that they all helped the teacher candidates recognize their strong and weak sides in their practices of teaching. The findings indicated that when equipped with "opportunities to plan, monitor, and evaluate their own teaching practice" (p. 102), student teachers welcomed to use them effectively to foster their autonomy during the study.

Uyar et al. (2012) carried out a qualitative study at a higher education institution in Ankara, Turkey. The participants were 58 voluntary teacher candidates enrolled in the teacher education programs at a state university: 29 of them were from the Primary School Education Programme and 29 of them were trainees at the Turkish Language Teaching Programme. Through a semi-structured interview form, they aimed to detect the self-regulated learning skills of student teachers during the processes of their reading comprehension. According to the results, 37 of the participants possessed a high level of self-efficacy in reading and learning by reading. Although they used cognitive strategies during reading, the number of cognitive strategies was very limited. In the same manner, the number of strategies of metacognition utilized by the pre-service teachers during reading

comprehension activities was very low and among the metacognitive strategies such as "goal setting, planning, cognitive strategy selection, monitoring, and self-evaluation" (p. 227), self-evaluation was the least used skill after reading. The results indicated that the teacher candidates lacked self-regulation skills. Their motivational states were also far from expected.

Kazu and Yıldırım (2013) conducted a descriptive study by using a survey model with 358 teachers (189 male and 169 female) who were from the primary and secondary schools in Tunceli, Turkey. The researchers compared the teachers' level of using metacognition strategies in terms of some variables. The professional experience of the teachers ranged from 1 year to more than 21 years. While the teachers with professional experience of 1–5 years had the highest percentage of the research sample (36.3%), those with 21 years and more consisted the least percentage (7.3%). The results of their study demonstrated a significant difference in the level of teachers' use of metacognitive strategies according to their professional seniority. According to the Scheffe test results, it was determined that the level of using the "Strategy planning" (p. 331) step of the metacognitive strategy was higher for the teachers who had a seniority of 21–25 years compared to the teachers who had a seniority of 1–5 years. Their study implied that more experienced teachers act more systematically and regularly before, during and towards the end of the lesson. It was assumed that the time teachers spend in the profession provides teachers with experience and thus they can use metacognitive strategies more. With regard to the level of using the dimension of "being a model" (p. 332), the results showed that, compared to the teachers who graduated from the faculty of science and literature, those graduated from the faculty of education attached more importance to empathizing with their students and also to being a model for them by receiving frequent feedback about their own activities. However, although most of the teachers were the faculty of education graduates, there was a significant difference in merely two dimensions among a total of 12 dimensions when compared with the teachers who graduated from other faculties. Additionally, the study showed that teachers working at the primary education level, and teachers working with fewer students in their classrooms also used more metacognitive strategies.

Ghonsooly et al. (2014) conducted a study with 101 volunteer Iranian English undergraduate student teachers, 47 males and 54 females. The sample was junior high school teacher trainees in Mashad, Iran, with a teaching experience ranged from 1 month to 12 years. The data was gathered through the Metacognitive Awareness Inventory for Teachers,

the MAIT (Balçıkanlı, 2011). The results showed that metacognition and self-efficacy were positively correlated and both of them were influential in teacher trainees' academic achievement. It also revealed that the candidate teachers' metacognitive scores strongly predicted their academic achievement.

Mai (2015) examined the metacognitive awareness of 52 science teachers who worked at six primary schools in Perak, Malaysia. The majority of the participants held a Bachelor's degree and their ages ranged between 31 and 41. Data was collected through the Metacognitive Awareness Inventory for Teachers, the MAIT (Balçıkanlı, 2011). The results of the study demonstrated that the teachers' metacognitive awareness level was high. Additionally, the results revealed that while the effect of gender did not have a significance difference, that of the educational level and age was significant on their metacognitive awareness.

Çetin (2015) carried out a study with teachers-to-be in a state university in Çanakkale, Turkey. A cross-sectional design was used in the study and the data were gathered through the Turkish adapted version of the Metacognitive Skills Inventory for Adults (the MAI) (Schraw & Dennison 1994). The participants were a total of 1072 students, 322 males and 750 females, enrolled in different departments of Primary School Education at the Faculty of Education. The results of the study demonstrated that the metacognitive skill scores of student teachers who were juniors and seniors were higher than those who were freshmen and sophomores.

Bars (2016) carried out a study in a state university in Diyarbakır, Turkey, with 96 senior prospective teachers. The participants included a total of 1475 teacher candidates, of whom 682 were in their senior year and 793 working towards the teaching certificate program. Bars used a correlational survey model in the study. The data were collected through a scale developed by the researcher to measure self-efficacy perceptions and the Turkish adapted versions of the following two scales- the Metacognitive Awareness Inventory (Schraw & Dennison, 1994) and the Problem Solving Inventory (Heppner & Petersen, 1982). The results showed that the pre-service teachers' metacognitive awareness total score was at high levels; their declarative knowledge score was the highest and the lowest score was in the sub-dimension of procedural knowledge. One of the interesting findings of the study was that the highest level of metacognitive awareness of teacher candidates in the declarative knowledge and procedural knowledge sub-dimensions belonged to the prospective teachers enrolled in the Foreign Languages Department.

Furthermore, the highest self-efficacy level among all the other majors belonged to them, too. Another interesting result of the study demonstrated that the frequency of student teachers' reading books except for textbooks usually resulted in a rise in the metacognitive awareness of the candidate teachers, their self-efficacy perceptions regarding their teaching profession and skills for problem-solving.

Kallio et al. (2017) conducted a study with 208 teachers from different training consortiums in Finland to utilize an instrument in determining the levels of teachers' metacognitive awareness in longitudinal studies. They used the Metacognitive Awareness Inventory for Teachers (the MAIT) devised by Balçıkanlı (2011), by removing one item from each factor from the original inventory. The findings showed the utility of even the compressed version of the questionnaire with 18 items in gauging the in-service teachers' metacognitive awareness, particularly in vocational education.

Öztürk (2018) carried out a study with foreign language teachers recruited at a university in western Turkey. A quasi-experimental study was conducted with 30 volunteer participants (4 males and 26 females), aged between 23 and more than 55. With regard to their graduation degrees, the number of instructors who hold a BA was 21, the ones who hold an MA was 7, and the two of them held an MS. Data were collected utilizing two self-report inventories: the Metacognitive Skills Inventory for Adults (the MAI) developed by Schraw and Dennison (1994) and the Metacognitive Awareness Inventory for Teachers (the MAIT) (Balçıkanlı, 2011). The researcher delivered a day-long professional development module to the participants who were mostly majored in English or American Language and Literature. The study results demonstrated a relationship between the metacognition of teachers and their teaching metacognitively. On the other hand, it also revealed that a day-long professional development module may not be adequate enough to have an effect on practices of teaching with metacognition.

Kılavuz (2019) did research on the primary school teachers' metacognitive awareness level in terms of different variables. It was a survey model carried with 232 primary school teachers working in Düzce, Turkey. The data were collected by utilizing the Turkish adapted version of the Metacognitive Awareness Inventory (Schraw & Dennison, 1994). 8.2% of the participants had a professional seniority of 0-5 years, 12.5% had a professional seniority of 6–10 years, 37.1% had a professional seniority of 11–15 years, and 42.2% were those with 15 years or more experience. 4.3% of the participants had an associate degree, 90.5% had a bachelor's degree, and 5.2% had a master's degree. The study results

demonstrated that the classroom teachers who participated in the research had a high metacognitive awareness level. The results also revealed a significant difference in the level of metacognitive awareness according to the gender of the classroom teachers and this difference was found to be in favour of the female teachers. In addition, it was also reported that the metacognitive awareness level of the participants did not differ significantly in terms of the variables of professional seniority, graduation degree, classes taught and student size in classes taught.

Sarıçoban and Kırmızı (2020) conducted a quantitative study to determine a relationship between teacher candidates' metacognitive awareness and their thinking styles. The participants were 121 prospective EFL teachers who were enrolled in the Department of English Language Literature. The data were collected through two instruments: the Thinking Styles Inventory (Sternberg & Wagner, 1992) and the Metacognitive Awareness Inventory (Schraw & Dennison, 1994). The study findings revealed that the EFL teacher candidates, on the whole, had a moderate level of metacognition, with their capacities as to comprehension monitoring (M=3.31) and evaluation (M=3.65) had relatively lower levels than the other sub-dimensions of metacognition. Additionally, the findings revealed that some thinking styles such as "legislative, executive, monarchic, and internal thinking styles" (p. 1033) predicted metacognition.

Üstünbaş (2020) carried out a study in a state university in Ankara, Turkey, with 96 senior students enrolled at the English Language Teaching (ELT) Department and 53 English lecturers recruited at the School of Foreign Languages of the same institution. A mixed-method design was used in the study and the data were collected utilizing a scale developed by the researcher, semi-structured interviews and the Metacognitive Awareness Inventory (Schraw & Dennison, 1994). The pre-service teachers' metacognitive awareness, components of knowledge as well as regulation were similar on whole, but yet there seemed a relatively small difference between knowledge of cognition and its regulation. The items in each subcomponent revealed distinct values from one another. The results revealed that there was a statistically significant relationship between the teacher self-efficacy and metacognitive awareness of both groups. The pre-service and in-service English language teachers showed a statistically significant difference in their perceived level of metacognitive awareness. Four categories were created in the study to cover the age ranges: "0–5 years (N=2), 6–10 years (N=16), 11–20 years (N=25), and more than 20 (N=10)" (p. 101). Overall, it emerged that there were no major differences between the groups in the self-efficacy levels

and the metacognitive awareness of the EFL lecturers according to their experience. With regard to their graduation degree, the study analysed both completed and ongoing educational degrees, and the findings showed no significant difference in the self-efficacy beliefs and the metacognitive awareness of EFL teachers as of their educational background.

CHAPTER 3

3. RESEARCH METHODOLOGY

This section initially provides the research design of the current study and presents a description of the population and the sample. It then gives a brief overview of the data collection instruments and describes the basic steps involved in the data gathering procedure. Finally, it provides information on the method of analysis of the data.

3.1. Research Design

The purpose of this study is to explore the metacognitive awareness level of EFL instructors. To achieve this goal, it also aims at examining whether there is a significant difference in the metacognitive awareness level of the EFL instructors in terms of their age group, graduation degree, professional experience, and the number of training courses they received for professional development. Therefore, the present study is a descriptive study as the type of research since the data to be obtained about the research problem and the sample is described (Turhanoğlu et al., 2012, p. 111).

Quantitative studies can also be called descriptive or observational studies since they display "an approach to test objective theories by examining the relationship between variables" (Patten & Newhart, 2018, p. 71). In this study, which is planned to focus on a non-experimental quantitative study model, a standard collection tool (scales) from a sample representing the research universe is collected systematically and the relationships between variables are analysed statistically. Therefore, the research study has a survey research pattern (Turhanoğlu et al., 2012, p. 85). The research studies are divided into two groups according to the focusing time such as cross-sectional and longitudinal research (Turhanoğlu et al., 2012, pp. 116–117). The current research includes observing a sample in the 2020–2021 academic year. In this respect, it is a cross-sectional study.

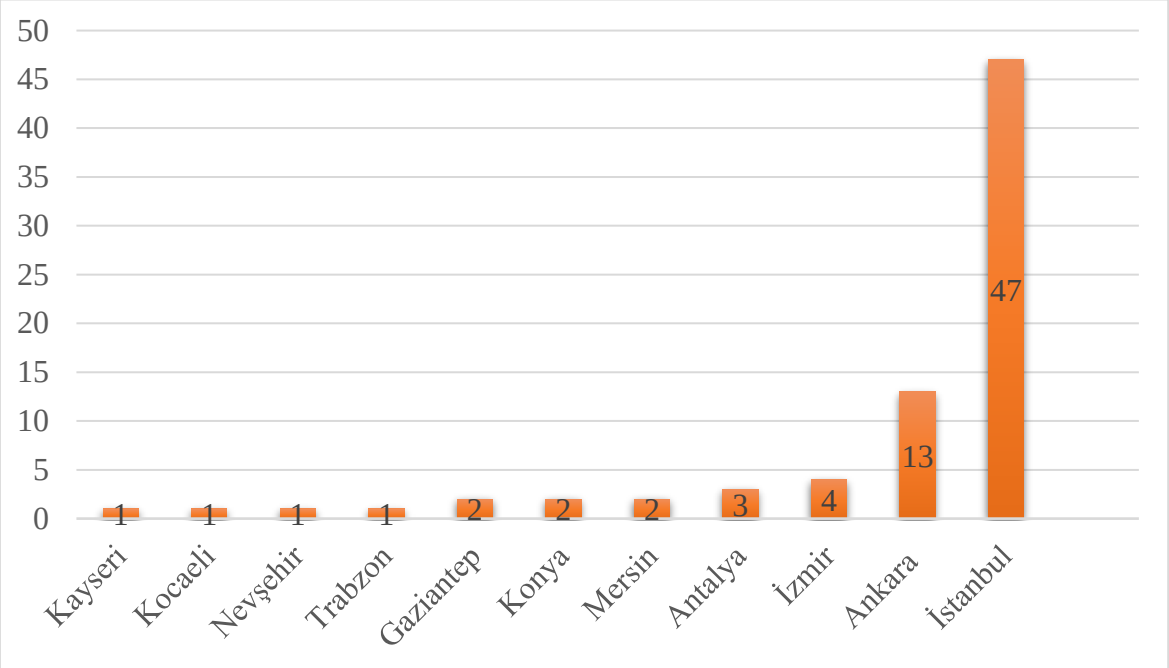
3.2. Population and Sample

Most quantitative research designs aim to be generalized to a larger group by taking a sample from a population, as it will be very difficult in practice to try to include each

member of the entire population (Patten & Newhart, 2018, pp. 22–23). In determining the sample that can represent the entire population, a convenience sampling method, based on non-probability sampling methods, was utilized in the study. Convenience sampling is to study the sample by choosing from easily accessible and applicable units due to the limitations in terms of time, transportation, and permit (Özen & Gül, 2010, p. 413). As such, the sample of this research study included 161 voluntary EFL instructors who work in the Preparatory Classes of the School of Foreign Languages at five foundation universities in Ankara, Turkey during the 2020–2021 academic year.

With regard to the foundation higher education institutions, as stated by the annual report by the Council of Higher Education (henceforth referred to as the CoHE) (Yüksek Öğretim Kurulu, 2021a), they are universities established by the foundations provided that they are not for the purpose of profit. These higher education institutions are not run by the state although they receive grants such as state aid and tax reductions. The first foundation university was established in 1984 and started education in the 1986–1987 academic year. According to the annual report by the CoHE (2021a), there are currently 77 foundation higher education institutions in the tertiary education system of Turkey, 13 of which are in the city of Ankara (see Figure 3.1).

Figure 3.1. Number of Foundation Higher Education Institutions by Province in Turkey



Note. Adapted from *Vakıf Yüksek Öğretim Kurumları*, by YÖK, 2021, (https://www.yok.gov.tr/Documents/Yayinlar/Yayinlarimiz/2021/vakif-yuksekogretim-kurumlari-raporu-2021.pdf). In the public domain.

As shown in Figure 3.1., Ankara is the second city with the highest number of foundation universities after Istanbul. Unlike public and private universities, all the foundation universities in Ankara supply the students who enrol in partial or all English medium of instruction undergraduate programs with education at Schools of Foreign Languages with Preparatory Class Units. At least a one-year compulsory English Preparatory Program is implemented for learners who fail the English Proficiency Exam, held at the very start of the academic year. These intensive courses often consist of at least 20–25 hours of instruction per week running over an academic year. Within a maximum of two years, when undergraduates fail the prerequisite exam, they are dismissed from the program. The foundation universities recruit instructors in accordance with terms and conditions established by the CoHE.

3.3. Data Collection Instruments

In order to measure metacognitive awareness, there are a wide variety of tools such as "surveys, scales, interviews, think-aloud protocols, observations, teacher evaluation scales, monitoring checklists, online diaries, portfolios, and calibration techniques, inventories" (Boğar, 2018, p. 43). However, a vast majority of researchers utilize the rating scale technique since it provides scoring objectivity (Boğar, 2018). Quantitative researchers can work with large examples because objective measurements such as surveys are not hard to apply to a large number of people in a very short time (Patten & Newhart, 2018, p. 23). Therefore, in the current study, a Demographic Information Form prepared by the researcher and a survey entitled "Metacognitive Awareness Inventory for Teachers" (MAIT) devised by Cem Balçıkanlı (2011) were used as data collection tools. In the following, the data gathering instruments mentioned are briefly introduced:

3.3.1. Demographic information form

The demographic information based on the relevance to the study is often added for a better description of the people who constituted the sample for the study and for the way that researchers can analyse and discuss the outcomes of the study (Patten & Newhart, 2018,

pp. 104–105). Accordingly, a "Demographic Information Form" was developed by the researcher to investigate richer data on the sample of the EFL instructors. The categories for the various factors were determined after reviewing the relevant scholarly literature and presenting to the opinion of two field experts and finalized by editing with the feedback received. This data collection tool includes a total of 4 questions, which aimed to obtain information about the EFL instructors' age, graduation degree, the number of years of teaching experience, and the number of training courses such as seminars and workshops they have attended for their professional development. It is included in Appendix 1.

3.3.2. Metacognitive awareness inventory for teachers

The "Metacognitive Awareness Inventory for Teachers" (MAIT) was devised by Cem Balçıkanlı in 2011. This data collection instrument still continues to be used in studies of metacognition of teachers (Ghonsooly et al., 2014; Kallio et al., 2017; Mai, 2015; Öztürk, 2018). The 5-point Likert-type scale with 24 items is included in Appendix 2. No translation was necessary since the inventory was already in English.

By considering the various dimensions of metacognition, the inventory MAIT was classified into two broad categories: "knowledge of cognition and regulation of cognition". Each category is divided into various subcomponents. For example, while knowledge of cognition involves three major different types of knowledge namely "declarative, procedural, and conditional knowledge", regulation of cognition refers to a range of activities that support students to master their learning such as "planning, monitoring, and evaluation" (Balçıkanlı, 2011, p. 1313–1319).

The construction of the questionnaire, specifically designed merely for teachers, was completed in three processes of development (Balçıkanlı, 2011). In the first phase, 42 items were taken from the 52-item inventory named the MAI developed by Schraw and Dennison (1994) to gauge metacognitive awareness of adults. By adding aspects of teaching to the 42 items, the inventory was modified for teachers. For instance, the item "I ask myself periodically if I am meeting my goals" was turned into "I ask myself periodically if I meet my teaching goals while I am teaching". The content validity of the 42 items was attained after receiving external feedback from a total of five experts of metacognition. As a result, it was piloted with 323 ELT trainee teachers, and six items of the inventory were excluded as a consequence of the first factor analysis. In the second phase, the 36 items on the basis of the further suggestions made by the five experts were implemented to 226 teacher

candidates. As a consequence of this factor analysis, 12 items were excluded and in the last step, the 24 items remained were implemented to 125 trainee teachers and the results met the expectations.

The 24-item data instrument has 6 factors, each of which has four items: "Factor I (Declarative Knowledge) includes the items 1, 7, 13, 19; Factor II (Procedural Knowledge) includes the items 2, 8, 14, 20; Factor III (Conditional Knowledge) includes the items 3, 9, 15, 21; Factor IV (Planning) includes the items 4, 10, 16, 22; Factor V (Monitoring) includes the items 5, 11, 17, 23, and Factor VI (Evaluating) includes the items 6, 12,18, 24" (Balçıkanlı, 2011, p. 1324). The reliability analysis of the inventory has reported the Cronbach Alpha values to vary between 0, 79 and 0.85; the reliability for the subscales reported as 0.85, 0.82, 0.84, 0.81, 0.80, and 0.79 respectively. This confirms that what the inventory appears to have high alpha scores is reliable. In the following, the 5-point Likert-type scale is scored: "*Strongly disagree* = 1", "*Disagree* = 2", "*Neutral* = 3", "*Agree* = 4", and "*Strongly agree* = 5".

3.4. Data Collection Procedure

Creswell (2014) draws particular attention to the ethical issues that might appear prior to conducting the study and in the process of research (pp. 132–140). Accordingly, we initially considered obtaining the necessary permission for use of the data instrument to be used in the study. Thus, we requested permission from Cem Balçıkanlı, who devised "the Metacognitive Awareness Inventory for Teachers" in 2011. We added a brief demographic information form at the beginning of the MAIT, which is presented in Appendix 1. In order to gain more insights to understand the results, we asked for teachers' background information such as their age, their graduation degree, their professional experience period, and the number of pieces of training they have received for professional development.

Furthermore, in order to ensure compliance with the Codes of Ethics published by Baskent University, we also applied to the ethics committees of the related foundation universities and beforehand obtained their ethical approval to administer the surveys. Informed consent can be considered the most salient step in research (Creswell, 2014). Therefore, we included a set of components in the informed consent paper, which can be exemplified as follows: information about the researcher, her institution, the topic, content, and the research aim, the collection and use of the survey data solely for the purpose of the research study, no foreseeable risks or benefits for participating in the present study, the

average completion time, maintaining confidentiality, voluntariness, and chances of withdrawal.

The current study was planned to be implemented face-to-face. Nonetheless, since a coronavirus disease (COVID-19) was declared as a "Public Health Emergency of International Concern" by World Health Organization in 2021, education and training activities at the universities have been carried out within the framework of the decisions taken by the authorized boards of our higher education institutions in Turkey, that is the CoHE (Yükseköğretim Kurulu, 2021b). Therefore, during the 2020–2021 academic year spring semester, due to the Global Pandemic, the instruction in all programs of the higher education institutions in Turkey has continued with online methods. As a result of this, we transferred the entire data instrument without modifying or adapting any of the items onto an online platform (docs.google.com) and its link was delivered to the faculty administrations. They handled the delivery of the survey online link to the EFL teachers who were currently instructing only Preparatory Classes. This caused a bit of a decrease in the number of respondents. Eventually, the research data were gathered at the convenient time of volunteer sample in the 2020–2021 academic year, more specifically, in the spring semester, between February and June 2021.

3.5. Data Analysis

Statistics can analyse "a sample and estimate how well it represents a population" (Patten & Newhart, 2018, p. 23). The present study investigates the general tendencies of the sample related to the variables in the study, whether the group shows a similar approach or significant differences about the same trend. For this reason, statistics for the response categories were obtained for each variable and a single variable description was made (Turhanoğlu et al., 2012, p. 184).

The answer categories of the questions that measure the variables may differ according to which level we will measure the variable and this differs in the statistics used (Turhanoğlu et al., 2012, p. 162). For instance, for better identification of the sample, response categories containing information such as the professional teaching experience, graduation degree, and the number of training courses received for professional development are related to the features of ordinal scales. For this reason, the description of the variables is done using frequency distribution (Turhanoğlu et al., 2012, p. 184).

"Likert scale is a type of interval scale developed to ensure that attitudes, behaviors, and thoughts can be measured precisely" (Turhanoğlu et al., 2012, p. 164). In the description of the variables of 5-point Likert type "Metacognitive Awareness Inventory for Teachers" by Balçıkanlı (2011), the variation such as the standard deviation showing the homogeneous or heterogeneous distribution of the variable in the sample, such as arithmetic mean and mode (distribution) measurements was used. (Turhanoğlu et al., 2012, p. 184).

Depending on whether the distribution is a normal distribution or not, nonparametric test assumptions were examined. The Cronbach's Alpha results for internal consistency coefficient for the MAIT show that the scale on the whole had an alpha of 0.945. In other words, the instrument is highly reliable and can be utilized to gauge the English language instructors' perceptions of metacognition.

CHAPTER 4

4. RESULTS

This section reports the results of the survey completed by 161 voluntary EFL instructors, who work in the Preparatory Classes of the School of Foreign Languages at five foundation higher education institutions in Ankara, Turkey, in the 2020–2021 academic year's spring term. It provides the findings related to each research question in order and includes tables and figures that are sequentially numbered and clearly labelled in order to display the data visually.

4.1. Research Question 1. What is the metacognitive awareness level of EFL instructors who work in the Preparatory Classes of the School of Foreign Languages at the Foundation Higher Education Institutions in Ankara, Turkey?

In this part of the data analysis, the results of the metacognitive awareness level of the EFL instructors are presented in a broad view. These statistical analyses contain mean scores, standard deviations, and percentages of agreement levels for all items. As can be seen in Table 1, the mean ranged from 15.57–17.98 with a standard deviation between 2.18 to 2.45. Based on the findings of the study, it can be concluded that the English instructors possess a high level of metacognitive awareness (M = 102.41, SD = 11.39). It can also be noted that while the lowest score is in the evaluating subcategory (M = 15.57, SD = 2.30), the highest one is in the declarative knowledge subcategory. (M = 17.98, SD = 2.18).

Table 4.1. Descriptive Statistics of Metacognitive Awareness and the Subcategories

Total Score	Mean	Std. Deviation	Minimum	Maximum
Metacognitive Awareness	102.41	11.39	69.00	120.00
Declarative Knowledge	17.98	2.18	12.00	20.00
Procedural Knowledge	17.73	2.36	9.00	20.00
Conditional Knowledge	17.60	2.45	11.00	20.00
Planning	17.48	2.31	11.00	20.00
Monitoring	16.04	2.25	10.00	20.00
Evaluating	15.57	2.30	9.00	20.00

(N=161)

Table 4.2 shows the frequency and percentage distributions of the responses given by the 161 voluntary EFL instructors to the questions with the 5-Likert format on "the Metacognitive Awareness Inventory for Teachers" (Balçıkanlı, 2011). As noted before, the items are rated on a five-point level of agreement, which is "*Strongly disagree* = 1", "*Disagree* = 2", "*Neutral* = 3", "*Agree* = 4", and "*Strongly agree* = 5".

Table 4.2. The EFL Instructors' Perspectives of Metacognitive Awareness

	Mean	SD	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Item 1	4.40	.937	7 (4.3%)	2 (1.2%)	3 (1.9%)	57 (35.4%)	92 (57.1%)
Item 2	4.38	.766	3 (1.9%)	1 (0.6%)	7 (4.3%)	71 (44.1%)	79 (49.1%)
Item 3	4.32	.825	3 (1.9%)	- -	19 (11.8%)	60 (37.3%)	79 (49.1%)
Item 4	4.36	.721	1 (0.6%)	2 (1.2%)	11 (6.8%)	71 (44.1%)	76 (47.2%)
Item 5	3.95	.723	2 (1.2%)	- -	40 (24.8%)	83 (51.6%)	36 (22.4%)
Item 6	4.04	.616	- -	1 (0.6%)	24 (14.9%)	103 (64.0%)	33 (20.5%)
Item 7	4.58	.628	1 (0.6%)	1 (0.6%)	3 (1.9%)	54 (33.5%)	102 (63.4%)
Item 8	4.45	.724	1 (0.6%)	2 (1.2%)	10 (6.2%)	58 (36.0%)	90 (55.9%)
Item 9	4.42	.755	1 (0.6%)	- -	20 (12.4%)	49 (30.4%)	91 (56.5%)
Item 10	4.34	.751	- -	5 (3.1%)	12 (7.5%)	67 (41.6%)	77 (47.8%)
Item 11	3.99	.627	- -	1 (0.6%)	29 (18.0%)	101 (62.7%)	30 (18.6%)
Item 12	3.80	.681	- -	6 (3.7%)	39 (24.2%)	98 (60.9%)	18 (11.2%)
Item 13	4.43	.677	- -	2 (1.2%)	11 (6.8%)	64 (39.8%)	84 (52.2%)
Item 14	4.43	.731	- -	1 (0.6%)	20 (12.4%)	48 (29.8%)	92 (57.1%)
Item 15	4.53	.662	- -	- -	15 (9.3%)	46 (28.6%)	100 (62.1%)
Item 16	4.37	.695	- -	1 (0.6%)	17 (10.6%)	65 (40.4%)	78 (48.4%)
Item 17	4.11	.671	- -	1 (0.6%)	25 (15.5%)	90 (55.9%)	45 (28.0%)
Item 18	3.93	.746	- -	8 (5.0%)	27 (16.8%)	95 (59.0%)	31 (19.3%)
Item 19	4.57	.556	- -	- -	5 3.1%)	59 36.6%)	97 60.2%)
Item 20	4.47	.707	- -	1 (0.6%)	17 (10.6%)	49 (30.4%)	94 (58.4%)
Item 21	4.34	.774	- -	1 (0.6%)	27 (16.8%)	50 (31.1%)	83 (51.6%)
Item 22	4.41	.647	- -	- -	14 (8.7%)	67 (41.6%)	80 (49.7%)
Item 23	3.99	.652	- -	3 1.9%)	26 16.1%)	102 63.4%)	30 18.6%)
Item 24	3.81	.729	- -	7 (4.3%)	40 (24.8%)	91 (56.5%)	23 (14.3%)

In a very broad view, results in Table 4.2 revealed that "*Strongly agree*" with the highest frequency was marked respectively as follows: 102 participants (63.4%) responded to Item 7, 100 participants (62.1%) responded to Item 15, and 97 participants (60.2%) responded to Item 19. The highest items are Item 7 (M = 4.58, SD = .63), Item 19 (M = 4.57, SD = .56), and Item 15 (M = 4.53, SD = .66) respectively (higher than 4.5). Item 7 asks for a response to the statement "I know what skills are most important in order to be a good teacher". Item 19 is about "I know what I am expected to teach". Item 15 states "I use different teaching techniques depending on the situation". Based on the results, it can be concluded that all the highest items are related to knowledge of cognition. Further, among the highest items, Item 7 and Item 19 are about declarative knowledge whereas Item 15 is about conditional knowledge.

However, the results also revealed that "*Strongly agree*" with the lowest frequency was marked respectively as follows: 18 participants (11.2%) responded to Item 12, 23 participants (14.3%) responded to Item 24, and 31 participants (19.3%) responded to Item 18. The lowest items are Item 12 (M = 3.80, SD = .68), Item 24 (M = 3.81, SD = .73) and Item 18 (M = 3.93, SD =.75) respectively. Item 12 asks for a response to the statement "I ask myself if I could have used different techniques after each teaching experience". Item 24 is about "I ask myself if I have considered all possible techniques after teaching a point". Item 18 states "After teaching a point, I ask myself if I'd teach it more effectively next time". In other words, the results indicate that these items all pertain to regulation of cognition, particularly of evaluation skills.

In a more detailed view, in the following are the results according to the subcategories of metacognitive knowledge and regulation of cognition:

a) Declarative Knowledge: The declarative knowledge subcategory includes Items 1, 7, 13, and 19 and its descriptive statistics results are shown in Table 4.3.

Table 4.3. Descriptive Statistics of Declarative Knowledge Subcategory Items

	Mean	SD	Minimum	Maximum
Item 1	4.40	.94	1	5
Item 7	4.58	.63	1	5
Item 13	4.43	0.68	2	5
Item 19	4.57	0.56	3	5

(N=161)

With regard to declarative knowledge, the lowest items are Item 1 (M = 4.40, SD = .94) and Item 13 (M = 4.43, SD = .68). Item 1 is about "I am aware of the strengths and weaknesses in my teaching" and Item 13 is about "I have control over how well I teach". On the other hand, the highest items were Item 7 (M = 4.58, SD = .63) and Item 19 (M = 4.57, SD = .56). In this respect, it is noteworthy that none of the participants responded to Item 19 as "*Strongly disagree*" or "*Disagree*".

b) Procedural Knowledge: The procedural knowledge subcategory includes Items 2, 8, 14, and 20 and its descriptive statistics results are provided in Table 4.4.

Table 4.4. Descriptive Statistics of Procedural Knowledge Subcategory Items

	Mean	SD	Minimum	Maximum
Item 2	4.38	.77	1	5
Item 8	4.45	.72	1	5
Item 14	4.43	.73	2	5
Item 20	4.47	.71	2	5

(N=161)

With regard to procedural knowledge, the lowest one is Item 2 (M = 4.38, SD = .77), which is about "I try to use teaching techniques that worked in the past". Item 20 (M = 4.47,

SD = .71) is the highest one that asks for a response to “I use helpful teaching techniques automatically”.

c) Conditional Knowledge: The conditional knowledge subcategory includes Items 3, 9, 15, and 21 and its descriptive statistics can be seen in Table 4.5.

Table 4.5. Descriptive Statistics of Conditional Knowledge Subcategory Items

	Mean	SD	Minimum	Maximum
Item 3	4.32	.83	1	5
Item 9	4.42	.76	1	5
Item 15	4.53	.66	3	5
Item 21	4.34	.77	2	5

(N=161)

With regard to conditional knowledge, the lowest items are Item 3 (M = 4.32, SD = .83) and Item 21 (M = 4.34, SD = .77). Those items are about “I use my strengths to compensate for my weaknesses in my teaching” and “I know when each teaching technique I use will be most effective” respectively. The highest one is Item 15 (M = 4.53, SD = .66), which is about “I use different teaching techniques depending on the situation”. What is remarkable is that no disagreement was expressed for Item 15, that is, a minimum of 3 was marked for the item.

d) Planning: The planning subcategory includes Items 4, 10, 16, and 22 and its descriptive statistics results are shown in Table 4.6.

Table 4.6. Descriptive Statistics of Planning Subcategory Items

	Mean	SD	Minimum	Maximum
Item 4	4.36	.72	1	5
Item 10	4.34	.75	2	5
Item 16	4.37	.70	2	5
Item 22	4.41	.65	3	5

(N=161)

With regard to planning, the lowest item is Item 10 (M = 4.34, SD = .75), which is about "I set my specific teaching goals before I start teaching". The highest one, on the other hand, Item 22 (M = 4.41, SD = .65) is about "I organize my time to best accomplish my teaching goals". What is remarkable is that no disagreement was expressed for Item 22, that is, a minimum of 3 was marked for the item.

e) Monitoring: The monitoring subcategory includes Items 5, 11, 17, and 23 and its descriptive statistics are demonstrated in Table 4.7.

Table 4.7. Descriptive Statistics of Monitoring Subcategory Items

	Mean	SD	Minimum	Maximum
Item 5	3.95	.72	2	5
Item 11	3.99	.63	2	5
Item 17	4.11	.67	2	5
Item 23	3.99	.65	2	5

(N=161)

With regard to monitoring, the lowest one is Item 5 (M = 3.95, SD = .72), which is about "I ask myself periodically if I meet my teaching goals while I am teaching". The highest Item 17 (M = 4.11, SD = .67) is about "I check regularly to what extent my students

comprehend the topic while I am teaching". In this context, it should be noted that the frequency of the response "*Neutral*" began to increase.

f) Evaluating: The evaluation subcategory includes Items 6, 12, 18, and 24. Table 4.8 demonstrates the descriptive statistics of this subcategory.

Table 4.8. Descriptive Statistics of Evaluating Subcategory Items

	Mean	SD	Minimum	Maximum
Item 6	4.04	.62	2	5
Item 12	3.80	.68	2	5
Item 18	3.93	.75	2	5
Item 24	3.81	.73	2	5

(N=161)

With regard to evaluating, Item 12 (M = 3.80, SD = .68) and Item 24 (M = 3.81, SD = .73) are the lowest ones and they are about "I ask myself if I could have used different techniques after each teaching experience" and "I ask myself if I have considered all possible techniques after teaching a point" respectively. The highest Item 6 (M = 4.04, SD = .62) is about "I ask myself how well I have accomplished my teaching goals once I am finished". In this context, it should be noted that the frequency of the response "*Neutral*" began to increase.

4.2. Research Question 2. Is there any significant difference in the metacognitive awareness of the EFL instructors according to different variables?

The second question of the present research aimed to examine whether there is a significant difference in the metacognitive awareness of the EFL instructors in terms of various variables such as age, graduation degree, the number of years of teaching experience, and the number of training courses received for professional development. Therefore, first, the normality test results were considered and they are illustrated in Table 4.9.

Table 4.9. Tests of Normality

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
total_metacognitive awareness	,154	161	,000	,945	161	,000
total_declarative_knowledge	,239	161	,000	,843	161	,000
total_procedural_knowledge	,207	161	,000	,853	161	,000
total_conditional_knowledge	,182	161	,000	,859	161	,000
total_planning	,198	161	,000	,884	161	,000
total_monitoring	,219	161	,000	,921	161	,000
total_evaluating	,214	161	,000	,927	161	,000

a. Lilliefors Significance Correction

As seen from Table 4.9, the Sig. value under the Shapiro-Wilk column is below than 0.05. As a result, it can be concluded that the data are not distributed normally. Therefore, non-parametric statistics were used.

This part of the data analysis examines the EFL instructors' metacognitive awareness and the following four variables, that is, age, graduation degree, the professional teaching experience, and the number of pieces of training received for professional development. It deals with the six subcategories of metacognitive awareness, more specifically, "declarative knowledge, procedural knowledge, conditional knowledge, planning, monitoring, and evaluating" (Balçıkanlı, 2011, p. 1325). Therefore, the second research question is organized under the following subtitles:

4.2.1. Research question 2.1. Is there any significant difference in the metacognitive awareness of the EFL instructors according to age?

The Kruskal-Wallis H test was carried out to discover statistically significant differences between the metacognitive awareness of the EFL instructors and different age groups. The dependent variable metacognitive awareness is gauged on a 5-point scale from "*Strongly disagree*" to "*Strongly agree*" and the independent variable, age, has five independent groups: "21–30", "31–40", "41–50", "51–60", and "61 and more". No

respondents existed from the age group of “61 and more”. The descriptive statistics for the metacognitive awareness and its subcategories of the EFL instructors according to age ranges were demonstrated in Table 4.10.

Table 4.10. Descriptive Statistics for Metacognitive Awareness and Its Subcategories According to Age

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Metacognitive Awareness	161	102,4099	11,38830	69,00	120,00
Declarative Knowledge	161	17,9814	2,18080	12,00	20,00
Procedural Knowledge	161	17,7329	2,36050	9,00	20,00
Conditional Knowledge	161	17,6025	2,45020	11,00	20,00
Planning	161	17,4783	2,30512	11,00	20,00
Monitoring	161	16,0435	2,24541	10,00	20,00
Evaluating	161	15,5714	2,30411	9,00	20,00
Age	161	2,19	,919	1	4

Table 4.11 displays the mean ranks in the Kruskal-Wallis test for the metacognitive awareness and its subcategories of the EFL instructors according to age.

Table 4.11. Mean Ranks in Kruskal-Wallis Test for Age

	Age	N	Mean Rank
Metacognitive Awareness	21–30	45	72,07
	31–40	50	76,32
	41–50	56	85,85
	51–60	10	117,45
	Total	161	
Declarative Knowledge	21–30	45	80,81
	31–40	50	78,71
	41–50	56	78,31
	51–60	10	108,35
	Total	161	
Procedural Knowledge	21–30	45	82,64
	31–40	50	75,79
	41–50	56	77,98
	51–60	10	116,55
	Total	161	
Conditional Knowledge	21–30	45	75,89
	31–40	50	80,03
	41–50	56	79,85
	51–60	10	115,30
	Total	161	
Planning	21–30	45	79,22
	31–40	50	76,69
	41–50	56	80,53
	51–60	10	113,20
	Total	161	
Monitoring	21–30	45	61,80
	31–40	50	70,82
	41–50	56	101,12
	51–60	10	105,65
	Total	161	
Evaluating	21–30	45	72,58
	31–40	50	78,05
	41–50	56	86,07
	51–60	10	105,25
	Total	161	

Table 4.12 shows the Kruskal-Wallis H test results conducted to investigate whether a statistically significant difference existed between the subcategories of metacognitive awareness of the EFL instructors and age.

Table 4.12. The Kruskal-Wallis H Test Results for Age

Test Statistics[a,b]

	Total Metacognitive Awareness	Total Declarative Knowledge	Total Procedural Knowledge	Total Conditional Knowledge	Total Planning	Total Monitoring	Total Evaluating
Chi-Square	8,971	4,071	7,160	6,313	5,551	24,914	5,446
df	3	3	3	3	3	3	3
Asymp. Sig.	,030	,254	,067	,097	,136	,000	,142

a. Kruskal Wallis Test

b. Grouping Variable: Age

The Kruskal-Wallis H test revealed a statistically significant difference in the total metacognitive awareness score between the different age groups, $\chi2(3) = 8.971$, $p = 0.03$, with a mean rank metacognition score of 72.07 for Age Group (21–30), 76.32 for Age Group (31–40), 85.85 for Age Group (41–50) and 117.45 for Age Group (51–60).

As mentioned before, the Kruskal-Wallis H test was carried out to investigate whether a statistically significant difference existed between the subcategories of metacognitive awareness of the EFL instructors and different age groups. The findings are below:

- The results of the Kruskal-Wallis H test demonstrated a statistically significant difference in the total Monitoring score between the different age groups; $\chi2\ (3) = 24.914$, $p = 0.00$, with a mean rank monitoring score of 61.80 for Age Group (21–30), 70.82 for Age Group (31–40), 101.12 for Age Group (41–50), and 105.65 for Age Group (51–60).
- Except for the Monitoring subcategory, there did not exist a significant difference between the other subcategories of the metacognitive awareness of the EFL instructors according to age.

4.2.2. Research question 2.2. Is there any significant difference in the metacognitive awareness of the EFL instructors according to graduation degree?

The Kruskal-Wallis H test was run to see statistically significant differences between the metacognitive awareness of the EFL instructors and graduation degree. The dependent variable metacognitive awareness is gauged on a 5-point scale from "*Strongly disagree*" to "*Strongly agree*" and the independent variable graduation degree has three independent groups: Bachelor's, Master's, and PhD. The descriptive statistics for the metacognitive awareness and its subcategories of the EFL instructors according to graduation degree were illustrated in Table 4.13.

Table 4.13. Descriptive Statistics for Metacognitive Awareness and Its Subcategories According to Graduation Degree

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Metacognitive Awareness	161	102,4099	11,38830	69,00	120,00
Declarative Knowledge	161	17,9814	2,18080	12,00	20,00
Procedural Knowledge	161	17,7329	2,36050	9,00	20,00
Conditional Knowledge	161	17,6025	2,45020	11,00	20,00
Planning	161	17,4783	2,30512	11,00	20,00
Monitoring	161	16,0435	2,24541	10,00	20,00
Evaluating	161	15,5714	2,30411	9,00	20,00
Graduation degree	161	1,75	,633	1	3

Table 4.14 shows the mean ranks in the Kruskal-Wallis test that was conducted to detect a significant difference in the subcategories of the metacognitive awareness of the EFL instructors according to graduate degree.

Table 4.14. Mean Ranks in Kruskal-Wallis Test for Graduation Degree

Ranks

	Graduation Degree	**N**	**Mean Rank**
Metacognitive Awareness	Bachelor's	57	65,18
	Master's	87	84,06
	PhD	17	118,41
	Total	161	
Declarative Knowledge	Bachelor's	57	61,50
	Master's	87	87,43
	PhD	17	113,47
	Total	161	
Procedural Knowledge	Bachelor's	57	56,50
	Master's	87	88,58
	PhD	17	124,35
	Total	161	
Conditional Knowledge	Bachelor's	57	63,35
	Master's	87	85,20
	PhD	17	118,71
	Total	161	
Planning	Bachelor's	57	62,96
	Master's	87	85,01
	PhD	17	121,00
	Total	161	
Monitoring	Bachelor's	57	78,70
	Master's	87	79,39
	PhD	17	96,97
	Total	161	
Evaluating	Bachelor's	57	76,30
	Master's	87	80,41
	PhD	17	99,79
	Total	161	

Table 4.15 demonstrates the Kruskal-Wallis H test results conducted to detect a statistically significant difference between the subcategories of metacognitive awareness of the EFL instructors and graduation degree.

Table 4.15. The Kruskal-Wallis H Test Results for Graduation Degree

Test Statistics[a,b]

	Total Metacognitive Awareness	Total Declarative Knowledge	Total Procedural Knowledge	Total Conditional Knowledge	Total Planning	Total Monitoring	Total Evaluating
Chi-Square	18,082	21,580	34,838	21,002	22,856	2,399	3,629
df	2	2	2	2	2	2	2
Asymp. Sig.	,000	,000	,000	,000	,000	,301	,163

a. Kruskal Wallis Test

b. Grouping Variable: Graduation Degree

The results of the Kruskal-Wallis H test revealed that a statistically significant difference in total metacognitive awareness score among graduation degree, $\chi2(2) = 18.082$, $p = 0.00$, with a mean rank metacognitive awareness score of 65.18 for the Bachelor's Graduation Degree, 84.06 for the Master's Graduation Degree, and 118.41 for the PhD Graduation Degree.

As mentioned before, the Kruskal-Wallis H test was conducted to determine whether there exists a statistically significant difference between the subcategories of metacognitive awareness of the EFL instructors and graduation degree.

- The results of the Kruskal-Wallis H test demonstrated that there was a statistically significant difference in total declarative knowledge score among graduation degrees, $\chi2(2) = 21.580$, $p = 0.00$, with a mean rank metacognition score of 61.50 for the Bachelor's Graduation Degree, 87.43 for the Master's Graduation Degree, and 113.47 for the PhD Graduation Degree.
- The Kruskal-Wallis H test results revealed that there existed a statistically significant difference in total procedural knowledge score among graduation degrees, $\chi2(2) = 34.838$, $p = 0.00$, with a mean rank metacognition score of 56.50 for the Bachelor's Graduation Degree, 88.58 for the Master's Graduation Degree, and 124.35 for the PhD Graduation Degree.

- The results of the Kruskal-Wallis H test demonstrated that there existed a statistically significant difference in total conditional knowledge score among graduation degrees, $\chi 2(2) = 21.002$, $p = 0.00$, with a mean rank metacognition score of 63.35 for the Bachelor's Graduation Degree, 85.20 for the Master's Graduation Degree, and 118.71 for the PhD Graduation Degree.
- The Kruskal-Wallis H test results revealed a statistically significant difference in total planning score among graduation degrees, $\chi 2(2) = 22.856$, $p = 0.00$, with a mean rank metacognition score of 62.96 for the Bachelor's Graduation Degree, 85.01 for the Master's Graduation Degree, and 121.00 for the PhD Graduation Degree.
- The Kruskal-Wallis H test results also showed that no statistically significant difference in total monitoring and total evaluating scores among graduation degrees existed.

4.2.3. Research question 2.3. Is there any significant difference in the metacognitive awareness of the EFL instructors according to the number of years of teaching experience?

The Kruskal-Wallis H test was carried out to detect statistically significant differences between the metacognitive awareness of the EFL instructors and the number of years of teaching experience. The dependent variable metacognitive awareness is gauged on a 5-point scale from "*Strongly disagree*" to "*Strongly agree*" and the independent variable is the number of years of teaching experience, which has five independent groups: "5 years and fewer", "6–10 years", "11–15 years", "16–20 years", and "21 years and more". The descriptive statistics for the metacognitive awareness and its subcategories of the EFL instructors according to the number of years of teaching experience were given in Table 4.16.

Table 4.16. Descriptive Statistics for Metacognitive Awareness and Its Subcategories According to the Number of Years of Teaching Experience

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Metacognitive Awareness	161	102.4099	11.38830	69.00	120.00
Declarative Knowledge	161	17.9814	2.18080	12.00	20.00
Procedural Knowledge	161	17.7329	2.36050	9.00	20.00
Conditional Knowledge	161	17.6025	2.45020	11.00	20.00
Planning	161	17.4783	2.30512	11.00	20.00
Monitoring	161	16.0435	2.24541	10.00	20.00
Evaluating	161	15.5714	2.30411	9.00	20.00
Professional Experience	161	2.73	1.482	1	5

Table 4.17 illustrates the mean ranks in the Kruskal-Wallis test for the metacognitive awareness and its subcategories of the EFL instructors according to the number of years of teaching experience. As can be seen in Table 4.17, it can be concluded that the instructors with 21 years and more ended up having more metacognitive awareness than all the other age ranges with a mean rank of 94.64 in the total score of the metacognitive awareness.

Table 4.17. Mean Ranks in Kruskal-Wallis Test for the Number of Years of Teaching Experience

Ranks

	Years of Teaching Experience	N	Mean Rank
Metacognitive Awareness	5 years and fewer	44	66,68
	6–10 years	38	85,74
	11–15 years	29	79,00
	16–20 years	17	84,41
	21 years and more	33	94,64
	Total	161	
Declarative Knowledge	5 years and fewer	44	77,25
	6–10 years	38	85,91
	11–15 years	29	78,57
	16–20 years	17	78,71
	21 years and more	33	83,67
	Total	161	
Procedural Knowledge	5 years and fewer	44	74,88
	6–10 years	38	85,84
	11–15 years	29	81,88
	16–20 years	17	90,97
	21 years and more	33	77,68
	Total	161	
Conditional Knowledge	5 years and fewer	44	70,43
	6–10 years	38	85,70
	11–15 years	29	85,66
	16–20 years	17	78,79
	21 years and more	33	86,73
	Total	161	
Planning	5 years and fewer	44	74,44
	6–10 years	38	86,58
	11–15 years	29	81,09
	16–20 years	17	70,62
	21 years and more	33	88,59
	Total	161	
Monitoring	5 years and fewer	44	57,65
	6–10 years	38	78,78
	11–15 years	29	77,22
	16–20 years	17	108,21
	21 years and more	33	104,00
	Total	161	
Evaluating	5 years and fewer	44	68,88
	6–10 years	38	85,18
	11–15 years	29	72,03
	16–20 years	17	86,18
	21 years and more	33	97,56
	Total	161	

Table 4.18 depicts the results of the Kruskal-Wallis H test for the metacognitive awareness and its subcategories of the EFL instructors in terms of the number of years of teaching experience.

Table 4.18. The Kruskal-Wallis H Test Results for Years of Teaching Experience

Test Statistics[a,b]

	Total Metacognitive Awareness	Total Declarative Knowledge	Total Procedural Knowledge	Total Conditional Knowledge	Total Planning	Total Monitoring	Total Evaluating
Chi-Square	7,592	1,014	2,260	3,647	3,300	26,951	9,437
df	4	4	4	4	4	4	4
Asymp. Sig.	,108	,908	,688	,456	,509	,000	,051

a. Kruskal Wallis Test

b. Grouping Variable: Years of Teaching Experience

The findings of the Kruskal-Wallis H test revealed no statistically significant difference in total metacognitive awareness score among years of teaching experience $\chi 2$ (4) = 7.592, p = 0.108, with a mean rank metacognition score of 66.68 for the 5 years and fewer, 85.74 for the 6–10 years, 79.00 for the 11–15 years, 84.41 for the 16–20 years, and 94.64 for the 21 years and more.

As mentioned before, the Kruskal-Wallis H test was conducted to investigate whether a statistically significant difference exists between the subcategories of metacognitive awareness of the EFL instructors and years of teaching experience.

- The Kruskal-Wallis H test findings demonstrated a statistically significant difference in total monitoring score among years of teaching experience, $\chi 2$ (4) = 26.951, p = 0.00, with a mean rank metacognition score of 57.65 for the 5 years and fewer, 78.78 for the 6–10 years, 77.22 for the 11–15 years, 108.21 for the 16–20 years, and 104.00 for the 21 years and more.

4.2.4. Research question 2.4. Is there any significant difference in the metacognitive awareness of the EFL instructors according to the number of training courses received for professional development?

The Kruskal-Wallis H test was carried out to detect statistically significant differences between the metacognitive awareness of the EFL instructors and the number of training courses received for professional development. The dependent variable metacognitive awareness is gauged on a 5-point scale from "*Strongly disagree*" to "*Strongly agree*" and the independent variable is the number of training courses, which has five independent groups at different ranges: "None", "1–5", "6–10", "11–15", and "16 and more". The descriptive statistics for the metacognitive awareness and its subcategories of the EFL instructors according to the number of training courses received for professional development were provided in Table 4.19.

Table 4.19. Descriptive Statistics for Metacognitive Awareness and Its Subcategories According to the Number of Training Courses Received for Professional Development

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Metacognitive Awareness	161	102.4099	11.38830	69.00	120.00
Declarative Knowledge	161	17.9814	2.18080	12.00	20.00
Procedural Knowledge	161	17.7329	2.36050	9.00	20.00
Conditional Knowledge	161	17.6025	2.45020	11.00	20.00
Planning	161	17.4783	2.30512	11.00	20.00
Monitoring	161	16.0435	2.24541	10.00	20.00
Evaluating	161	15.5714	2.30411	9.00	20.00
Number of Training Courses	161	2.97	1.26	1	5

Table 4.20 illustrates the mean ranks in the Kruskal-Wallis test for the metacognitive awareness and its subcategories of the EFL instructors according to the number of training courses received for professional development.

Table 4.20. Mean Ranks in Kruskal-Wallis Test for the Number of Training Courses Received for Professional Development

Ranks

	Number of Training Courses	N	Mean Rank
Metacognitive Awareness	None	8	16.63
	1–5	68	71.63
	6–10	33	94.09
	11–15	25	89.52
	16 and more	27	99.80
	Total	161	
Declarative Knowledge	None	8	43.06
	1–5	68	71.23
	6–10	33	98.42
	11–15	25	85.50
	16 and more	27	91.39
	Total	161	
Procedural Knowledge	None	8	30.38
	1–5	68	73.24
	6–10	33	103.61
	11–15	25	96.98
	16 and more	27	73.11
	Total	161	
Conditional Knowledge	None	8	20.00
	1–5	68	71.33
	6–10	33	100.94
	11–15	25	91.24
	16 and more	27	89.57
	Total	161	
Planning	None	8	43.25
	1–5	68	74.32
	6–10	33	95.30
	11–15	25	80.10
	16 and more	27	92.35
	Total	161	
Monitoring	None	8	19.44
	1–5	68	72.52
	6–10	33	77.76
	11–15	25	98.02
	16 and more	27	108.80
	Total	161	
Evaluating	None	8	29.63
	1–5	68	79.53
	6–10	33	84.27
	11–15	25	76.34
	16 and more	27	100.24
	Total	161	

Table 4.21 shows the Kruskal-Wallis H test results conducted to detect whether a statistically significant difference exists between the subcategories of metacognitive awareness of the EFL instructors and the number of training courses received for professional development.

Table 4.21. The Kruskal-Wallis H Test Results for the Number of Training Courses Received for Professional Development

Test Statistics[a,b]

	total metacognitive awareness	total declarative knowledge	Total procedural knowledge	Total conditional knowledge	Total planning	Total monitoring	Total evaluating
Chi-Square	26,109	15,710	24,244	26,027	11,964	31,401	15,995
df	4	4	4	4	4	4	4
Asymp. Sig.	,000	,003	,000	,000	,018	,000	,003

a. Kruskal Wallis Test

b. Grouping Variable: Number of Training Courses

The findings revealed a statistically significant difference in total metacognitive awareness of the EFL instructors score among the number of training courses received for professional development, $\chi2(4) = 26.109$, $p = 0.00$, with a mean rank metacognition score of 16.63 for the number of training courses as None, 71.63 for the number of training courses in the range of 1–5, 94.09 for the number of training courses in the range of 6–10, 89.52 for the number of training courses in the range of 11–15, and 99.80 for the number of training courses in the range of 16 and more.

As mentioned before, the Kruskal-Wallis H test was conducted to discover whether a statistically significant difference exists between the subcategories of metacognitive awareness of the EFL instructors and the different number of training courses received for professional development.

- The Kruskal-Wallis H test results revealed a statistically significant difference in total declarative knowledge score among the number of training courses received for professional development, $\chi2(4) = 15.710$, $p = 0.03$, with a mean rank metacognition score of 43.06 for the number of training courses as None, 71.23 for the number of

training courses in the range of 1–5, 98.42 for the number of training courses in the range of 6–10, 85.50 for the number of training courses in the range of 11–15, and 91.39 for the number of training courses in the range of 16 and more.

- The results of the Kruskal-Wallis H test demonstrated that there was a statistically significant difference in total procedural knowledge score among the number of training courses received for professional development, $\chi2(4) = 24.244$, $p = 0.00$, with a mean rank metacognition score of 30.38 for the number of training courses as None, 73.24 for the number of training courses in the range of 1–5, 103.61 for the number of training courses in the range of 6–10, 96.98 for the number of training courses in the range of 11–15, and 73.11 for the number of training courses in the range of 16 and more.

- The results revealed a statistically significant difference in total conditional knowledge score among the number of training courses received for professional development, $\chi2(4) = 26.027$, $p = 0.00$, with a mean rank metacognition score of 20.00 for the number of training courses as None, 71.33 for the number of training courses in the range of 1–5, 100.94 for the number of training courses in the range of 6–10, 91.24 for the number of training courses in the range of 11–15, and 89.57 for the number of training courses in the range of 16 and more.

- According to the Kruskal-Wallis H test results, there was a statistically significant difference in total planning score among the number of training courses received for professional development, $\chi2(4) = 11.964$, $p = 0.018$, with a mean rank metacognition score of 43.25 for the number of training courses as None, 74.32 for the number of training courses in the range of 1–5, 95.30 for the number of training courses in the range of 6–10, 80.10 for the number of training courses in the range of 11–15, and 92.35 for the number of training courses in the range of 16 and more.

- Based on the results of the Kruskal-Wallis H test, it can be stated that there was a statistically significant difference in total monitoring score among the number of training courses received for professional development, $\chi2(4) = 31.401$, $p = 0.00$, with a mean rank metacognition score of 19.44 for the number of training courses as None, 72.52 for the number of training courses in the range of 1–5, 77.76 for the number of training courses in the range of 6–10, 98.02 for the number of training

courses in the range of 11–15, and 108.80 for the number of training courses in the range of 16 and more.

- The Kruskal-Wallis H test results also revealed that a statistically significant difference in total evaluating score existed among the number of training courses received for professional development, $\chi 2(4) = 15.995$, $p = 0.03$, with a mean rank metacognition score of 29.63 for the number of training courses as None, 79.53 for the number of training courses in the range of 1–5, 84.27 for the number of training courses in the range of 6–10, 76.34 for the number of training courses in the range of 11–15, and 100.24 for the number of training courses in the range of 16 and more.

CHAPTER 5

5. CONCLUSION

This section initially provides a brief summary of the present research, more specifically, once more reports the background to the study, the purpose, the sample involved, and the data gathering process, and the data analysis for the research questions. Afterwards, it argues the findings of the research in the light of related theories presented in the second section and it offers the possible reasons for the similarities or discrepancies in the findings of the most related studies. Finally, it ends with practical implications as well as suggestions for further research.

5.1. An Overview of the Study

The current century challenges learners to grow as not only knowledgeable individuals but also active recipients and processors of information (van Laar et al., 2020). Therefore, the primary aim of education is to foster learners' will and ability to be lifelong learners. Undoubtedly, this draws attention to teachers' crucial role in achieving this goal while they are raising a new generation in formal educational settings (Zimmerman, 2002). As a matter of fact, as the inevitable corollary to cognitive revolution (Miller, 2003), the need to empower teachers with the skills and experiences that go beyond simply handing down knowledge has come to the fore. Drawing on the pertinent scholarly literature, we can conclude that this implies the metacognitive awareness of teachers (Balçıkanlı, 2010). As Zohar and Barzilai (2013) stated, in addition to the pedagogical knowledge, teachers should have the "sound knowledge of metacognition" (p. 153). Research shows a relationship exists between teachers' metacognitive awareness and their teaching metacognitively (Öztürk, 2018). Ultimately, a teacher with a higher level of metacognitive awareness can adapt their teaching to the constantly evolving educational environment by considering the learners' needs (Hartman, 2001).

From a broad perspective on the studies regarding teachers' metacognition, conducted in Turkey, it seems that research on the metacognitive awareness of teachers has been mostly restricted to prospective teachers and to the data tool that measures the metacognitive awareness of adults, rather than teachers. Therefore, the present study, which

had a survey design, was administered to 161 voluntary EFL instructors working in the Preparatory Classes of the School of Foreign Languages at the foundation higher education institutions in Ankara, Turkey, during the 2020–2021 academic year. The value of such an undertaking merits highlighting, particularly when considered the benefits that might bring to teacher education.

The primary purpose of this research was to explore the overall metacognitive awareness level of EFL instructors. To achieve this goal, it aimed at examining whether a significant difference in the subcategories of metacognitive awareness of the EFL instructors exists according to age, graduation degree, the number of years of teaching experience, and the number of training courses received for professional development. The data collection tools were a demographic information form developed by the researcher and a self-report instrument entitled "the Metacognitive Awareness Inventory for Teachers" devised by Balçıkanlı (2011). The MAIT with 24 items represents two fundamental dimensions of metacognition, namely, metacognitive knowledge and regulation of cognition. "Knowledge of cognition includes the three general types of knowledge (i.e. declarative, procedural, and conditional) and regulation of cognition consists of metacognitive skills (i.e. planning, monitoring, and evaluating)" (Balçıkanlı, 2011, p. 1325). The descriptive statistics were used to analyse the data. The results demonstrated that the EFL instructors have a high level of metacognitive awareness: While the mean score obtained for the declarative knowledge subcategory was found to be the highest, the lowest score was obtained in the evaluating subcategory. The results also revealed a significant difference in the monitoring subcategory of the metacognitive awareness of the EFL instructors according to age. Except for the total monitoring and total evaluating scores, there was a significant difference between the other subcategories of the metacognitive awareness of the EFL instructors according to graduation degrees. According to the results, the total monitoring scores differed significantly among years of teaching experience. Similarly, there existed a statistically significant difference in the total score of each of the subcomponents of metacognitive awareness among the number of training courses received for professional development.

In conclusion, when the related literature is taken into account, we acknowledge the caveat that interpretations of results should always be offered with caution since it is difficult to trace one's thinking processes (Baker & Cerro, 2000; Boğar, 2018). It is obvious that to what extent a similar pattern among the variables examined in the present study is also valid in other cultural systems and educational environments should be investigated by more

researchers. Nevertheless, the abovementioned findings, to some extent, have been able to explain various aspects of metacognition and yield quite some convincing results to put emphasis on investments and interventions aimed at raising the teacher' metacognitive awareness.

5.2. Discussion and Conclusions

This section interprets the findings under two broad subheadings arranged in light of the research questions set forth in the beginning: the overall metacognitive awareness level of the EFL instructors and their metacognitive awareness level in the subcategories according to a number of variables.

5.2.1. The overall metacognitive awareness level of the EFL instructors

The findings of the present study provide an insight into the metacognitive awareness level of the 161 EFL instructors, who work in the Preparatory Classes of the School of Foreign Languages at the foundation higher education institutions in Ankara, Turkey, during the 2020–2021 academic year. The results showed that the EFL instructors have a high level of metacognitive awareness (M = 102.41, SD = 11.39). This is in alignment with the research results obtained by the previous studies carried out by Bars (2016), Kılavuz (2019), and Mai (2015). Similarly, their studies exhibited that teachers have a high level of metacognitive awareness. When these results are taken together, it suggests that a high level of metacognitive awareness could be associated with the teaching profession. According to Stewart et al. (2007), due to their profession, teachers are actually implicitly intertwined with metacognitive processes. While developing the curriculum or dealing with any single task in a daily lesson plan, teachers take into consideration how their students will learn and "this may represent a part of the process of increasing one's metacognitive awareness" (p. 38). Ultimately, teachers often need to become aware of their most elaborate preparations and actions and evaluations for effective instruction (Balçıkanlı, 2011; Hartman, 2001). In other words, they often activate their mental processes before, during, and after a lesson: They make choices about how to implement the goal of developing a lesson and usually plan their lessons accordingly. They monitor and regulate their lessons and make changes when necessary; sometimes they include more or exclude some exercises to pace themselves. They assess their own accomplishment after the lesson, seeking an answer to make it better next time. Teachers need to know what skills and strategies are essential when teaching, how they

can build them with their own entire repertoire of learning and teaching skills, and how to teach students to use these skills in an intelligent way (Wilson & Bai, 2016). Considering the role of teachers as a "starting point in this endeavour" (Schraw, 1998, p. 123), we can conclude that the results of the current research are promising. Awareness of knowing what one knows, that is, their metacognitive knowledge appears to be "a major precursor to their learning" (Hattie, 2013, p. 62), and hence, a high level of metacognitive awareness can help teachers compensate for lack of subject knowledge and pedagogical knowledge. It could enable teachers to apply their knowledge and ability into better teaching processes by improving their self-regulatory skills. Thus, they would be more able to act as explicit metacognitive models for their learners, who particularly have not managed to develop their thinking and learning skills. However, we are well aware that caution must be applied with a small sample size; that is these findings cannot be extrapolated to all EFL instructors.

In addition, the characteristics of the sample group of the current study might also constitute a relevant explanation for a high level of metacognitive awareness. However, this finding does not coincide with the results of the studies carried out by Memnun and Akkaya (2009), in which nearly 34% of the participants showed a lower level and Sarıçoban and Kırmızı (2020), in which the participants, on the whole, showed a moderate level of metacognition. This inconsistency may be in part due to that their studies were implemented for the prospective teachers.

The mean score obtained in the present study for the declarative knowledge subcategory (M = 17.98, SD = 2.18) was found to be the highest. In other words, based on the findings of the present study, the EFL instructors can be stated to know what skills are essential to be an efficient teacher and they are well aware of what they are expected to teach. Since no disagreement was expressed for the relevant item on the inventory, it can be concluded that the majority of the instructors agreed that they manage to organize their time to best reach their teaching targets, which is a remarkable finding. This being the case, it may account for why the majority of the participants reported that they utilize a variety of techniques for teaching various situations and that they make use of beneficial teaching techniques automatically. This appears to be consistent with that of a study conducted by Bars (2016); the declarative knowledge of the prospective teachers was also at the highest score and it belonged to the prospective teachers enrolled in the Foreign Languages Department.

The participants of the present study expressed that they regularly monitor and check how much their learners understand the subject topic during the lesson and ask themselves how much they have achieved their teaching goals. On the other hand, they had a tendency to remain neutral on these items. This result could be attributed to the fact that their lowest score was obtained in the evaluating subcategory (M = 15.57, SD = 2.30). Based on the items on the inventory the participants agreed to the least, it can be stated that with regard to their declarative knowledge, they may be unaware of how strong or weak they are in their teaching. In this respect, it is noteworthy that since none of the participants expressed disagreement over the relevant item, it can be concluded that they are well aware that what they are expected to teach. This conclusion might as well be due to the possibility of their working with a mandated curriculum and materials. More specifically, the participants might not be relatively free to make decisions on what to teach and what ways to use to teach, which may prevent some teachers from appraising and managing their own behaviour. If it is the case, then it may plausibly explain why they are less likely to agree to Item 13, which is about "I have control over how well I teach". With respect to their procedural knowledge, they may be unaware that they do not use the beneficial teaching techniques that worked earlier. Regarding their conditional knowledge, it can be stated that they may fail to utilize their stronger sides in exchange for their weaker sides in their teaching and that they may not know when to use the most effective technique. As far as regulation of cognition is considered, in terms of their planning skills, they may be unaware that setting their specific teaching goals is necessary before the lesson. As regards monitoring skills, they do not seem to regularly ask themselves if they achieve their teaching targets while they are teaching. All in all, these findings account for the low score for the evaluating skills of the participants. The evaluating subcomponent provides a kind of mirror for teachers to better describe the action that takes place in the classroom and this awareness can be beneficial in generating alternative actions or changes that might be appropriate in another classroom situation. More specifically, considering to inform and improve future work, it is of paramount importance. Therefore, the findings of this research provided a hint as to where to start investigating the problematic areas in the EFL instructors' metacognitive awareness and determined the types of metacognitive knowledge and regulation skills they reportedly utilize or require while teaching.

When the overall metacognitive awareness of the sample group was taken into account, several explanations might be made for the finding that the highest mean score was

obtained in the declarative knowledge subcomponent while the lowest mean score was related to the evaluation subcomponent. First, it might be due to the assumption that two fundamental dimensions of metacognition follow the different developmental trajectories. Metacognitive knowledge and regulation of cognition do not seem to follow the same developmental trajectories (Schraw & Graham, 1997). To illustrate, Alexander et al. (1995) made a conclusion that knowledge is accumulated in a steady incremental fashion. Schraw and Graham (1997) presumed that the steady growth in knowledge of cognition is owing to the incremental acquisition of pivotal cognitive skills. On the other hand, many individuals may consider building meaningful theories of their own cognition as particularly difficult and hence might fail to "use theories to systematize self-knowledge and apply that knowledge to self-regulation" (Schraw & Moshman, 1995, p. 367). In this respect, it is obvious that, in Veenman et al.'s words (2006), "we need to know more about what components of metacognition develop when and under what conditions" (p. 8). In addition, many other factors, such as low level of self-efficacy, self-belief, and motivation, and negative emotion and attitude, can explain the instructors' weaker outcomes in replying to this subcomponent of the MAIT in spite of their high level of metacognitive awareness.

The second possible explanation for the results mentioned above might be due to one of the general assumptions ascribed to metacognitive knowledge; the possibility of its being "fallible" (Wenden, 1987, p. 574). According to Wenden (1987), why metacognitive knowledge is not always exactly correct may be due to the fact that it may transform over time and this gradually growing accumulated knowledge may change one's perspective on their own cognitive processes.

In addition, these results could be the self-reporting nature of the inventory, which may as well fail to assess the true level of metacognitive awareness of the EFL instructors since it does not indicate how they behave in an authentic teaching situation. To succinctly put it, it is crucial to keep in mind the possible bias in their responses: The results might imply that the EFL instructors know what is right, but on the other hand, they may have inclined to the view that they should give credit to the necessity of the classroom. Such findings underscore that one's declarative knowledge might be inaccurate beliefs.

5.2.2. The metacognitive awareness level of the EFL instructors in the subcategories according to a number of variables

Another research question of the present study was to detect whether there was a significant difference between the subcategories of the metacognitive awareness of the EFL instructors with regard to different variables such as age, graduation degree, the number of years of teaching experience, and the number of training courses they have received for professional development. To this end, data gathered from the sample through the MAIT on the aforementioned variables were analysed quantitatively. Due to the data having significant values in the normality test, in order to reveal any differences, we carried out a non-parametric test. The analyses revealed that there was a significant difference between the subcategories of metacognitive awareness. The items involved in each subcategory of metacognitive awareness of the EFL instructors can be seen in Table 3, 4, 5, 6, 7, and 8.

The present study has five independent age ranges: “21–30”, “31–40”, “41–50”, “51–60”, and “61 and more”. No respondents existed from the age group of “61 and more”. The results showed that there existed a statistically significant difference in the total metacognitive awareness score between the different age groups. This is not consistent with the tacit assumption that metacognitive development is complete by the time a person reaches adulthood. On the contrary, this finding supports the view of conceptualization of metacognition in a developmental framework and is consistent with the study carried out by Stewart et al. (2007) in which the metacognitive awareness of the teachers tended to increase with age. According to Piaget, the pioneer in positing the process of how knowledge evolved, cognitive development was a process, in which individuals actively construct their own knowledge as a result of their own experiences in their own environment (Senemoğlu, 2010). According to Kuhn (2000), metacognition appears in early years of life and “follows an extended developmental course during which it becomes more explicit, more powerful, and hence more effective, as it comes to operate increasingly under the individual’s conscious control” (p. 178). In addition, the Kruskal-Wallis H test showed that except for the monitoring subcategory, no significant difference existed between the other subcategories of the metacognitive awareness of the EFL instructors according to age. A possible explanation for this might be that teachers often monitor and regulate their lessons and make the necessary amendments so that they sometimes include more or exclude some exercises to pace themselves.

The Kruskal-Wallis H test of the present study showed that the total metacognitive awareness score differed significantly among graduation degrees. As for the subcategories, there was a statistically significant difference in total declarative, procedural, and conditional knowledge, as well as planning score among graduation degrees. On the other hand, the research results demonstrated that there did not exist a statistically significant difference in total monitoring and total evaluating scores among graduation degrees. When the pertinent literature taken into account, similarly, in Mai's (2015) study, the main effect of the educational level was significant on the teachers' metacognitive awareness. On the other hand, it does not coincide with that of a study carried out by Kılavuz (2019) in which it was reported that the metacognitive awareness level of the participant teachers did not differ significantly in terms of the variable of graduation degree. This difference might be partially due to the characteristics of the sample. Their participants consisted of teachers working at primary schools whereas the current study's participants included merely EFL instructors.

The significant difference in total metacognitive awareness score among graduation degrees is likely to be related to the long-term education the participants have undertaken. Students are often to have had at least 12 years of schooling to get admission to the university and they are usually expected to complete at least a four-year study at the tertiary level. It is a matter of choice to receive an academic degree at a higher education institution and involves cognitively demanding situations and a person's perseverance. The people who wish to hold a graduate degree often have set themselves a series of goals to achieve a high academic standard. Beliefs about cognitive ability and control over cognition can have an impact on one's behaviour and goals. In other words, in Holton and Clarke's (2006) words, "beliefs and intuition incline the learners' actions to certain directions" (p. 133). While reflecting on their own cognitive processes, people can monitor themselves in terms of their perception, judgements on learning practice, and predictions of the consequences of their acts. They enact that feedback. This cyclical and recursive process goes on constantly since learning is a never-ending process. For Veenman et al. (2006), knowledge of cognition and metacognitive skills "become more sophisticated and academically oriented whenever formal educational requires the explicit utilization of a metacognitive repertoire" (p. 8). Efklides (2009) claimed that metacognitive knowledge provides a learner with a database into which strategies are incorporated to take control of their learning (p.76). "Metacognitive growth in a particular cognitive domain can lead to performing better in that domain" (Baker, 1994, p. 232). In short, that those with higher metacognitive awareness and better

metacognitive skills have the performance of higher efficiency in their learning (Baker & Cerro, 2000) could be a possible explanation.

In the present study, the Kruskal-Wallis H test revealed no statistically significant difference in total metacognitive awareness score among years of teaching experience. This is in accordance with that of a research study carried out by Kılavuz (2019), in which it was reported that the metacognitive awareness level of the participants did not differ significantly in terms of the variable of professional seniority. On the other hand, a statistically significant difference existed in total monitoring scores among years of teaching experience. A possible explanation for these results may be that "metacognitive knowledge develops incrementally as a function of time on task, while metacognitive control is more closely related to ability level" (Schraw & Graham, 1997, p. 5). Considering that "cognition mediates between the learner and the experiential world and the objects of cognition" (Holton & Clarke, 2006, p. 131), it can be presumed that older teachers may have more experience on what is being needed and why. This knowledge, later on, can lead them to some regulatory decisions to "plan, monitor, and evaluate their teaching" (Hartman, 2001, p. 150). As previously mentioned, metacognitive awareness of teachers calls for teaching metacognitively, which "involves teaching with and for metacognition" (Hartman, 2001, p. 149).

The data on the difference among the monitoring subcategory of metacognition according to years of teaching experience, in a sense, is in line with those reported recently in several studies (Çetin, 2015; Memnun & Akkaya, 2009). They support the idea that high awareness appears to be largely due to the outcomes of professional experience. For example, Memnun and Akkaya (2009) showed that the time spent in the teacher candidates' teaching practicums can be considered as a positive impact on raising the participants' metacognitive awareness. Their study results indicated that more than half of the primary teacher trainees who took part in the research possessed a high level of metacognitive awareness and it increased according to their class levels, too. Another study conducted by Çetin (2015) demonstrated that the third and fourth-grade teacher candidates had higher metacognitive skill scores compared to that of the pre-service teachers that received education for one or two years. It is, therefore, possible that the time spent in teaching may contribute to metacognitive awareness.

The current study's test results showed that a statistically significant difference in the total metacognitive awareness score of the EFL instructors existed among the number of

training courses received for professional development. Moreover, there was also a statistically significant difference in total score of each of the subcomponents of metacognitive awareness among the number of training courses received for professional development. As a whole, these data can also be associated with the general view that metacognition is partly due to malleable features. In other words, it might partly be related to "the recognized impact of the social environment during learning" (Schunk, 2012, p. 246). In other words, training courses for professional development in a way reflect the idea of collective activities; when colleagues handle tasks in a cooperative way, "the shared social interactions can serve an instructional function" (Schunk, 2012, p. 246). The social cognitive theory, unlike behaviourism, describes the influence of experiences of an individual as well as the others, the actions of others, and environmental factors on learning (Bandura, 1989). To our best knowledge, there is no study that has dealt with the concept of metacognition according to the number of training courses received for professional development. However, recently, one study demonstrated that a day-long professional development module might not be adequate enough to have an effect on practices of teaching with metacognition (Öztürk, 2018). Therefore, it will also be of interest to explore how to impart metacognitive skills to EFL instructors through training courses.

5.3. Pedagogical Implications

Based on the findings of the current study, we tend to suggest the following for educators who get involved in the education process either in class or within the administrative units. Instructors who wish to extend the borders of their own field of expertise can use the MAIT therefore they can discover the areas where they have weaknesses and take action for enhancing their metacognitive skills. Similarly, administrators can use the MAIT as a screening tool to pinpoint the instructors' strengths and weaknesses, even in great detail, through each statement on the inventory, and hence, they can meet the instructors' needs through simple, low-cost, and replicable metacognitive training courses that could be from lengthy courses to weekend sessions. The instructors with any level of metacognitive awareness will probably improve faster and more significantly. In the same vein, it might as well be a good idea to allow for opportunities for pre-service teachers in their undergraduate courses to develop their metacognitive awareness since such training, in turn, would enable them to encourage their future learners' autonomy (Öztürk, 2018).

5.4. Suggestions for Further Studies

Based on the limitations and the results of the study, we would like to offer the following recommendations for further research. Firstly, this research took place in Ankara, which is the second city to have the highest number of foundation higher education institutions in Turkey. However, with small sample sizes, the findings must be carefully handled because they might not be extrapolated to all other English instructors. In addition, it should be kept in mind that the private and state universities were excluded in the present study. Therefore, conducting it in those universities or in different provinces of Turkey and in other countries is important in terms of generalizing the research results.

Secondly, given the fact that this research study examined the metacognitive awareness of the EFL instructors in one semester, the spring term of the 2020–2021 academic year, a longitudinal study could be set out to investigate which factors on the metacognitive awareness of teachers were reported frequently in a longer time. Additionally, research reveals that a huge number of factors, situations, and other natural processes foster or impede metacognition thereby influencing the level of individuals' use of metacognitive strategies (Kazu & Yıldırım, 2013). Therefore, the present study could be conducted again considering some other additional variables such as gender, the number of students in the class, the types of faculties graduated from, the grade levels employed to teach, motivational factors, particularly self-efficacy, and so forth.

Thirdly, the current research relied heavily on self-reported data. Examining the level of the EFL instructors' use of metacognitive skills in the formal educational settings through complementary qualitative research method such as interviews, field observation of instructors, case histories and so forth would be very useful to support the results of the present research. The high scores in metacognitive awareness in this research might probably be due to that all the respondents in the current study were Preparatory Class EFL instructors at the tertiary level. Therefore, a similar study could be carried out on the instructors from other fields at the same institutions to detect whether a similar trend exists for the ones who are teaching in other fields such as law, medicine, science, and even instructors working with languages apart from English or at a different level of education.

Finally, in this present research, the data was obtained on the number of pieces of training the EFL instructors received for professional development and the findings demonstrated a statistically significant difference in the metacognitive awareness total scores

and the subcategories of the EFL instructors. Therefore, further studies might focus on investigating the conditions under which professional development initiatives are most effective in enhancing their metacognitive awareness. Researchers could build upon experimental procedures to investigate the effect of a training course on increasing the metacognitive awareness of teachers, particularly on their metacognitive skills.

REFERENCES

Anderson, N. J. (2002). *The role of metacognition in second language teaching and learning* (ED463659). ERIC. https://files.eric.ed.gov/fulltext/ED463659.pdf

Anderson, N. J. (2008). Metacognition and good language learners. In C. Griffiths (Ed.), *Lessons from Good Language Learners* (pp. 99–109). Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511497667.010

Arik, B., & Arik, E. (2014). The role and status of English in Turkish higher education: English is the language of instruction in around 20% of the programs in Turkish universities. *English Today, 30*(4), 5–10. https://doi.org/10.1017/S0266078414000339

Aypay, A., Cemaloğlu, N., Sarpkaya, R., Tomul, E., & Baştürk, R. (2014). *Bilimsel araştırma yöntemleri.* (A. Tanrıöğen, Ed.) Ankara: Anı.

Baker, L. (1994). Fostering metacognitive development. *Advances in Child Development and Behavior, 25*, 201–1239.

Baker, L., & Cerro, L. (2000). Assessing metacognition in children and adults. *Issues in the Measurement of Metacognition, 4*, 99–145. https://digitalcommons.unl.edu/burosmetacognition

Balçıkanlı, C. (2008). Fostering learner autonomy in EFL classrooms. *Kastamonu Eğitim Dergisi, 16*(1), 277–284.

Balçıkanlı, C. (2010). *The effects of social networking on pre-service English teachers*' *metacognitive awareness and teaching practice*[Unpublished doctoral dissertation]. Gazi University Institute of Educational Sciences.

Balçıkanlı, C. (2011). Metacognitive awareness inventory for teachers (MAIT). *Electronic Journal of Research in Educational Psychology, 9*(3), 1695–2095.

Balçıkanlı, C. (2021). *50 soruda dil öğrenme.* Bilim ve Gelecek Kitaplığı.

Baldan, B. (2017). *The level of self-regulated learning skills of undergraduate students and the role of higher education programs in improving self-regulated learning* [Unpublished master's thesis]. Anadolu University Institute of Educational Sciences.

Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist, 44*(9), 1175–1184.

Bandura , A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology, 52*(1), 1–26.

Bandura, A. (2010). Self-efficacy. In *The Corsini Encyclopedia of Psychology* (pp. 1–3). John Wiley & Sons, Inc. https://doi.org/10.1002/9780470479216.corpsy0836

Bars, M. (2016). *A study of the perceptions of prospective teachers regarding their metacognitive awareness, self-efficacy for the teaching profession and problem solving skills* [Unpublished doctoral dissertation]. Dicle University Institute of Educational Sciences.

Boekaerts, M. (1999). Self-regulated learning: Where we are today. *International Journal of Educational Research, 31*(6), 445–457.

Boğar, Y. (2018). *Exploring 6th grade students' scientific epistemological beliefs and metacognitive awareness regarding achieement level*[Unpublished doctoral dissertation]. Middle East Technical University Institute of Social Sciences.

Bransford, J. D., Brown, A. N., & Cocking, R. R. (2000). *How people learn: Brain, mind, experience, and school: Expanded edition.* Washington DC: The National Academy Press.

Brown, H. D. (1994). *Principles of language learning and teaching* (Third ed.). New Jersey: Prentice Hall Regents.

Brown, H. D. (2001). *Teaching by principles an interactive approach to language pedagogy* (2nd ed.). Longman.

Brown, H. D. (2007). *Principles of language learning and teaching.* New York: Pearson Longman.

Carrell, P. L., & Eisterhold, J. C. (1983). Schema theory and ESL reading pedagogy. *TESOL Quarterly, 17*(4), 553–573.

Casselman, B. L., & Atwood, C. H. (2017). Improving general chemistry course performance through online homework-based metacognitive training. *Journal of Chemical Education, 94*(12), 1811–1821.

Cer, E. (2019). The instruction of writing strategies: The effect of the metacognitive strategy on the writing skills of pupils in secondary education. *SAGE Open, 9*(2). https://doi.org/10.1177/2158244019842681

Chalkiadaki, A. (2018). A systematic literature review of 21st century skills and competencies in primary education. *International Journal of Instruction, 11*(3), 1–16.

Cohen, A. D., & Wang, I. K. (2018). Fluctuation in the functions of language learner strategies. *System, 74*, 169–182.

Cook, G. (2003). *Applied linguistics.* Oxford University Press.

Creswell, J. W. (2014). *Research design: qualitative, quantitative, and mixed methods approaches.* 4th ed. Thousand Oaks, California: SAGE Publications.

Cross, D. R., & Paris, S. G. (1988). Developmental and instructional analyses of children's metacognition and reading comprehension. *Journal of educational psychology, 80*(2), 131–142.

Çetin, B. (2015). An investigation of teacher candidates metacognitive skills according to their year of study at Çanakkale. *Educational Research and Reviews, 10*(1), 10–16.

Çubukçu, F. (2008). Enhancing vocabulary development and reading comprehension through metacognitive strategies. *Issues in Educational Research, 18*(1), 1–11.

Dam, L. (2003). Developing learner autonomy: the teacher's responsibility. In D. Little, J. Ridley, & E. Ushioda (Eds.), *Learner autonomy in the foreign language classroom: Teacher, learner, curriculum and assessment* (pp. 135–145). Authentic.

Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *The Canadian Psychology, 49*(3), 182–185.

Demirören, M., Turan, S., & Taşdelen Teker, G. (2020). Determinants of self-regulated learning skills: the roles of tutors and students. *Advances in Physiology Education, 44*(1), 93–98.

Dent, A. L., & Koenka, A. C. (2016). The relation between self-regulated learning and academic achievement across childhood and adolescence: A meta-analysis. *Educational Psychology Review, 28*(3), 425–474.

Dinsmore, D. L., Alexander, P. A., & Loughlin, S. (2008). Focusing the conceptual lens on metacognition, self-regulation, and self-regulated learning. *Educational Psychology Review, 20*(4), 391–409.

Dörnyei, Z. (1998). Motivation in second and foreign language learning. *Language Teaching, 31*(3), 117–135.

Efklides, A. (2008). Metacognition: Defining its facets and levels of functioning in relation to self-regulation and co-regulation. *European Psychologist, 13*(4), 277–287.

Efklides, A. (2009). The role of metacognitive experiences in the learning process. *Psicothema, 21*(1), 76–82.

Ellis, A. K., Bond, J. B., & Denton, D. W. (2012). An analytical literature review of the effects of metacognitive teaching strategies in primary and secondary student populations. *Asia Pacific Journal of Educational Development, 1*(1), 9–23.

Finch, A. (2002). Autonomy: Where are we? Where are we going? *JALT CUE-SIG Proceedings*, 15–42.

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist, 34*(10), 906–911.

Flavell, J. H. (1992). Cognitive development: Past, present, and future. *Developmental Psychology, 28*(6), 998–1005.

Fox, E., & Riconscente, M. (2008). Metacognition and self-regulation in James, Piaget, and Vygotsky. *Educational Psychology Review, 20*(4), 373–389.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2006). *How to design and evaluate research in education* (8th ed.). New York: McGrawHill.

Gunstone, R. F., & Northfield, J. (1994). Metacognition and learning to teach. *International Journal of Science Education, 16*(5), 523–537.

Ghonsooly, B., Khajavy, G. H., & Mahjoobi, F. M. (2014). Self-efficacy and metacognition as predictors of Iranian teacher trainees' academic performance: A path analysis approach. *Procedia-Social and Behavioral Sciences, 98*, 590–598.

Halpern, D. F. (2014). *Thought and knowledge: An introduction to critical thinking.* New York: Taylor & Francis.

Hamers, J., van Luit, J., & Csapo, B. (Eds.). (1999). *Teaching and learning thinhing skills.* The Netherlands: Swets & Zeitlinger B.V., Lisse.

Harmer, J. (2001). *The practice of English language teaching* (3rd ed.). England: Pearson.

Harmer, J. (2012). *Essential teacher knowledge: Core concepts in English language teaching.* Harlow, Essex, UK: Pearson Longman.

Hartman, H. J. (2001). Teaching metacognitively. In H. J. Hartman (Ed.), *Metacognition in learning and instruction: Theory, research and practice* (pp. 149–172). The Netherlands: Kluwer Academic Publishers.

Hattie, J. (2013). Calibration and confidence: where to next? *Learning and Instruction, 24*, 62–66.

Hattie, J., Biggs, J., & Purdie, N. (1996). Effects of learning skills interventions on student learning: A meta-analysis. *Review of Educational Research, 66*(2), 99–136.

Holton, D., & Clarke , D. (2006). Scaffolding and metacognition. *International Journal of Mathematical Education in Science and Technology*, *37*(2), 127–143.

Hudson, T. (2007). *Teaching second language reading.* Oxford: Oxford University Press.

Işık, A. (2008). Yabancı dil egitimimizdeki yanlışlar nereden kaynaklanıyor? *Journal of Language and Linguistic Studies, 4*(2), 15–26.

Kallio, H., Virta, K., Kallio, M., Virta, A., Hjardemaal, F. R., & Sandven, J. (2017). The Utility of the Metacognitive Awareness Inventory for Teachers among In-Service Teachers. *Journal of Education and Learning, 6*(4), 78–91.

Kaplan, A. (2008). Clarifying metacognition, self-regulation, and self-regulated learning: What's the purpose? *Educational Psychology Review, 20*(4), 477–484.

Kaya, F. (2016). *Investigation of learner autonomy and self-efficacy in relation to academic achievement: A case study in higher education* [Unpublished Master's thesis]. The Graduate School of Educational Sciences of Hacettepe University

Kazu, H., & Yıldırım, N. (2013). Öğretmenlerin bilişsel farkındalık stratejilerini kullanma düzeylerinin çeşitli değişkenler açısından karşılaştırılması. *Türk Eğitim Bilimleri Dergisi, 11*(4), 323–342.

Kılavuz, N.İ. (2019). *Investigation of metacognitive awareness levels of primary school teachers by different variables* [Unpublished master's thesis]. Zonguldak Bülent Ecevit University Institute of Social Sciences.

Kırkgöz, Y. (2009). Globalization and English language policy in Turkey. *Educational Policy, 23*(5), 663–684.

Kistner, S., Rakoczy, K., Otto, B., Dignath-van Ewijk, C., & Klieme, E. (2010). Promotion of self-regulated learning in classrooms: Investigating frequency, quality, and consequences for student performance. *Metacognition and Learning, 5*(2), 157–171.

Kitsantas, A., Winsler, A., & Huie, F. (2008). Self-regulation and ability predictors of academic success during college: A predictive validity study. *Journal of Advanced Academics, 20*(1), 42–68

Knapper C, & Cropley, A. J. (2000). *Lifelong learning in higher education.* Psychology Press.

Krathwohl, D. R. (2002). A revision of Bloom's taxonomy: An overview. *Theory Into Practice, 41*(4), 212–218.

Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: how difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology, 77*(6), 1121–1134.

Kuhn, D. (2000). Metacognitive development. *Current Directions in Psychological Science, 9*(5), 178–181. https://doi.org/10.1111/1467-8721.00088

Kuhn, D., & Dean, J. D. (2004). Metacognition: A bridge between cognitive psychology and educational practice. *Theory Into Practice, 43*(4), 268–1273. https://doi.org/10.1207/s15430421tip4304_4

Kurtz, B. E., Schneider, W., Carr, M., & Borkowski, E. (1990). Strategy instruction and attributional beliefs in West Germany and the United States: Do teachers foster metacognitive development? *Contemporary Educational Psychology, 15*(3), 268–283

Lai, E. R. (2011a). *Collaboration: A literature review.* Always learning: Pearson research report.

Lai, E. R. (2011b). *Metacognition: A literature review.* Always learning: Pearson research report.

Lindner, R. W., Harris, B. R., Gordon, W. (1996, April 8–12). *Are graduate students better self regulated learners than undergraduates? A follow-up study* [Conference session].The Annual Meeting of the American Educational Research Association, New York. https://files.eric.ed.gov/fulltext/ED396638.pdf

Little, D. (1991). *Learner autonomy 1: Definitions, issues and problems.* Dublin: Authentik.

Little, D. (2007). Language learner autonomy: Some fundamental considerations revisited. *Innovation in Language Learning and Teaching, 1*(1), 14–29.

Livingston, J. A. (2003). Metacognition: An overview (ED474273). ERIC. https://files.eric.ed.gov/fulltext/ED474273.pdf

Mai, M. Y. (2015). Science teachers self perception about metacognition. *Journal of Educational and Social Research, 5*(1), 77–85.

Marzano, R. J., Brandt, R. S., Hughes, C. S., Jones, B. F., Presseisen, B. Z., Rankin, S. C., & Suhor, C. (1988). *Dimensions of thinking: A framework for curriculum and instruction.* The Association for Supervision and Curriculum Development, 125 N. West St., Alexandria, VA 22314-2798.

Memnun, D. S., & Akkaya, R. (2009). The levels of metacognitive awareness of primary teacher trainees. *Procedia-Social and Behavioral Sciences, 1*(1), 1919–1923.

Merriam-Webster. (n.d.). Meta. In *Merriam-Webster.com dictionary*. Retrieved February 1, 2021, from https://www.merriam-webster.com/dictionary/meta

Miller, G. A. (2003). The cognitive revolution: a historical perspective. *Trends In Cognitive Sciences, 7*(3), 141–144.

Moseley, D., Elliot, J., Gregson, M., & Higgins, S. (2005). Thinking skills frameworks for use in education and training. *British Educational Research Journal, 31*(3), 367–390.

Nunan, D. (1999). *Second language teaching & learning.* Boston: Heinle & Heinle.

Noushad, P. P. (2008). Cognition about cognitions: The theory of metacognition (ED502151). ERIC. https://files.eric.ed.gov/fulltext/ED502151.pdf

O'Malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition.* Cambridge University Press.

O'Malley, J. M., Chamot, A. U., & Küpper, L. (1989). Listening comprehension strategies in second language acquisition. *Applied Linguistics, 10*(4), 418–437.

Ortega, L. (2013). *Understanding second language acquisition.* Routledge.

Oxford, R. L. (2002). Language learning strategies in a nutshell: Update and ESL suggestions. In J. Richards, & W. Renandya (Eds.), *Methodology in Language Teaching: An Anthology of Current Practice* (pp. 124–132). Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511667190.018

Oxford, R. L. (2011). Strategies for learning a second or foreign language. *Language Teaching, 2*, 167–180.

Öz, H. (2005). Metacognition in Foreign/Second Language Learning and Teaching. *Hacettepe University Journal of Education, 29*, 147–156.

Özen, Y. & Gül, A. (2010). Sosyal ve eğitim bilimleri araştırmalarında evren-örneklem sorunu. *Atatürk Üniversitesi Kazım Karabekir Eğitim Fakültesi Dergisi*, *0*(15), 394-422. https://dergipark.org.tr/tr/pub/ataunikkefd/issue/2776/37227

Öztürk, N. (2018). The relation between teachers self-reported metacognitive awareness and teaching with metacognition. *International Journal of Research in Teacher Education, 9*(2), 26–35.

Palincsar, A. S. (1984). *Reciprocal teaching: Working within the zone of proximal development.* https://files.eric.ed.gov/fulltext/ED246385.pdf

Paris , S. G., & Paris, A. H. (2001). Classroom applications of research on self-regulated learning. *Educational Psychologist, 36*(2), 89–101.

Paris , S. G., & Newman , R. S. (1990). Development aspects of self-regulated learning. *Educational Psychologist, 25*(1), 87–102. https://doi.org/10.1207/s15326985ep2501_7

Paris, S. G., & Winograd, P. (1990). Promoting metacognition and motivation of exceptional children. *Remedial and Special Education, 11*(6), 7–15.

Patten, M. L., & Newhart, M. (2018). *Understanding research methods: An overview of the essentials.* New York, NY : Routledge.

Perry, J., Lundie, D., & Golder, G. (2018). Metacognition in schools: what does the literature suggest about the effectiveness of teaching metacognition in schools? *Educational Review, 71*(4), 483–500. https://doi.org/10.1080/00131911.2018.1441127

Piaget, J. (1976). Piaget's theory. In B. Inhelder, H. H. Chipman, & C. Zwingmann (Eds.), *Piaget and His School* (pp. 11–23). Springer-Verlag Berlin Heidelberg.

Pintrich, P. R. (2002). The role of metacognitive knowledge in learning, teaching, and assessing. *Theory Into Practice, 41*(4), 219–225.

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82*(1), 33–40.

Proust, J. (2010). Metacognition. *Philosophy Compass, 5*(11), 989–998.

Rubin, J. (1975). What the "good language learner" can teach us. *TESOL Quarterly, 9*(1), 41– 51.

Ryff, C. D., & Singer, B. H. (2008). Know thyself and become what you are: A eudaimonic approach to psychological well-being. *Journal of Happiness Studies, 9*(1), 13–39. https://doi.org/10.1007/s10902-006-9019-0

Sarıçoban, A., & Kırmızı, Ö. (2020). The correlation between metacognitive awareness and thinking styles of pre-service EFL teachers. *International Online Journal of Education and Teaching (IOJET), 7*(3). 1032–1052. https://iojet.org/index.php/IOJET/article/view/921

Schneider, W. (2008). The development of metacognitive knowledge in children and adolescents: Major trends and implications for education. *Mind, Brain, and Education, 2*(3), 114–121.

Schraw, G. (1998). Promoting general metacognitive awareness. *Instructional Science, 26*(1), 113–125.

Schraw, G., & Dennison, R. S. (1994). Assessing metacognitive awareness. *Contemporary Educational Psychology, 19*(4), 460–475.

Schraw, G., & Graham, T. (1997). Helping gifted students develop metacognitive awareness. *Roeper Review, 20*(1), 4–8.

Schraw, G., & Moshman, D. (1995). Metacognitive theories. *Educational Psychology Review, 7*(4), 351–371.

Schunk, D. H. (1989). Self-efficacy and achievement behaviors. *Educational Psychology Review, 1*(3), 173–208.

Schunk, D. H. (2008). Metacognition, self-regulation, and self-regulated learning: Research recommendations. *Educational Psychology Review, 20*(4), 463–467.

Schunk, D. H. (2012). *Learning theories an educational perspective* (6th ed.). Pearson.

Scruggs, T. E., Mastropieri, M. A., Monson, J., & Jorgensen, C. (1985). Maximizing what gifted students can learn: Recent findings of learning strategy research. *Gifted Child Quarterly, 29*(4), 181–185.

Senemoğlu, N. (2010). *Gelişim öğrenme ve öğretim* (16th ed.). Ankara: Pegem Akademi.

Soodla, P., Jõgi,, A. L., & Kikas, E. (2017). Relationships between teachers' metacognitive knowledge and students' metacognitive knowledge and reading achievement. *European Journal of Psychology of Education, 32*(2), 201–218.

Sternberg, R. J. (1984). What should intelligence tests test? Implications of a triarchic theory of intelligence for intelligence testing. *Educational Researcher, 13*(1), 5–15.

Sternberg, R. J. (1998). Metacognition, abilities, and developing expertise: What makes an expert student? *Instructional Science, 26*(1), 127–140.

Stewart, P. W., Cooper, S. S., & Moulding, R. L. (2007). Metacognitive development in professional educators. *The Researcher, 21*(1), 32–40.

Swartz, R. J., & Perkins, D. N. (1990). *Teaching thinking: Issues and approaches.* Routledge.

Şahin, S., & Kendir, F. (2013). The effect of using metacognitive strategies for solving geometry problems on students' achievement and attitude. *Educational Research and Reviews, 8*(19), 1777–1792.

Şakrak-Ekin, G., & Balçıkanlı, C. (2019). Does autonomy really matter in language learning? *Journal of Language and Education, 5*(4), 98–111.

Takeuchi, O. (2019). Language learning strategies: Insights from the past and directions for the future. In G. Xuesong (Ed.), *Second Handbook of English Language Teaching* (pp. 683–699). Springer.

Turan, S. (2009). *The relationship between attitudes to problem-based learning, learning skills and achievement*[Unpublished doctoral dissertation]. Hacettepe University Institute of Social Sciences.

Turhanoğlu, A. K., Suğur, N., Şavran, T. G., & Çetin, O. B. (2012). *Sosyolojide araştırma yöntem ve teknikleri.* (T. G. Şavran, Ed.) Eskişehir: Anadolu Üniversitesi.

Uyar, Y., Ateş, S., & Yıldırım, K. (2012). Self-regulated learning skills used by pre-service teachers during reading comprehension process. *Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 9*(18), 227–247.

Üstünbaş, Ü. (2020). *Pre-service and in-service English language teachers' self-efficacy beliefs and metacognitive awareness* [Unpublished doctoral dissertation]. Hacettepe University Institute of Educational Sciences.

van der Stel, M., & Veenman, M. V. (2008). Relation between intellectual ability and metacognitive skillfulness as predictors of learning performance of young students performing tasks in different domains. *Learning and Individual Differences, 18*(1), 128–134.

van Laar, E., van Deursen, A. J., & van Dijk, J. A. (2020). Determinants of 21st-century skills and 21st-century digital skills for workers: A systematic literature review. *Sage Open, 10*(1). https://doi.org/10.1177/2158244019900176

Veenman, M. V., Van Hout-Wolters, B. H., & Afflerbach, P. (2006). Metacognition and learning: Conceptual and methodological considerations. *Metacognition Learning, 1*(1), 3–14.

Wall, K., & Hall, E. (2016). Teachers as metacognitive role models. *European Journal of Teacher Education, 39*(4), 403–418. https://doi.org/10.1080/02619768.2016.1212834

Wang, M. C., Haertel, G. D., & Walberg, H. J. (1990). What influences learning? A content analysis of review literature. *The Journal of Educational Research, 84*(1), 30–43.

Wellman, H. M. (1983). Metamemory revisited. *Trends in Memory Development Research, 9*, 31–51.

Wenden, A. L. (1987). Metacognition: An expanded view on the cognitive abilities of L2 learners. *Language Learning, 37*(4), 573–597.

Wenden, A. L. (1998a). Learner training in foreign/second language learning: A curricular perspective for the 21st century (ED416673). ERIC. https://files.eric.ed.gov/fulltext/ED416673.pdf

Wenden, A. L. (1998b). Metacognitive knowledge and language learning1. *Applied Linguistics, 19*(4), 515–537. https://doi.org/10.1093/applin/19.4.515

Wenden, A. L. (1999). An introduction to metacognitive knowledge and beliefs in language learning: Beyond the basics. *System, 27*(4), 435–441.

Wenglinsky, H. (2002). The link between teacher classroom practices and student academic performance. *Education Policy Analysis Archives, 10*(12).

Wilson, N. S., & Bai, H. (2010). The relationships and impact of teachers' metacognitive knowledge and pedagogical understandings of metacognition. *Metacognition and Learning, 5*(3), 269–288.

Wingate, U. (2006). Doing away with 'study skills'. *Teaching in Higher Education, 11*(4), 457–469.

World Health Organization. (2021, February). *Weekly epidemiological update* https://www.who.int/publications/m/item/weekly-epidemiological-update---2-february-2021

Young, A., & Fry, J. D. (2008). Metacognitive awareness and academic achievement in college students. *Journal of the Scholarship of Teaching and Learning, 8*(2), 1–10.

Yükseköğretim Kurulu. (2021a). *Vakıf yükseköğretim kurumları 2021.* https://www.yok.gov.tr/Documents/Yayinlar/Yayinlarimiz/2021/vakif-yuksekogretim-kurumlari-2021-raporu.pdf

Yükseköğretim Kurulu. (2021b). *Explanation on the 2020–2021 academic year spring semester*. (https://covid19.yok.gov.tr/ HaberBelgeleri/2020-2021-Bahar-donemine-iliskin-aciklama/2020–2021-bahar-donemine-iliskin-aciklama.pdf).

Zhang, D., & Zhang, L. J. (2019). Metacognition and self-regulated learning (SRL) in second/foreign language teaching. In G. Xuesong (Ed.), *Second Handbook of English Language Teaching* (pp. 883–897). Springer.

Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology, 81*(3), 329–339.

Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory Into Practice, 41*(2), 64–70.

Zimmerman, B. J., & Martinez-Pons, M. (1990). Student differences in self-regulated learning: Relating grade, sex, and giftedness to self-efficacy and strategy use. *Journal of Educational Psychology, 82*(1), 51–59.

Zohar, A., & Barzilai, S. (2013). A review of research on metacognition in science education: Current and future directions. *Studies in Science Education, 49*(2), 121–169.

APPENDIX 1: DEMOGRAPHIC INFORMATION PAPER

1 Age

- a ○ 21–30
- b ○ 31–40
- c ○ 41–50
- d ○ 51–60
- e ○ 61 and more

2 Graduation degree

- a ○ Bachelor’s
- b ○ Master’s
- c ○ PhD

3 Professional experience

- a ○ 5 years and fewer
- b ○ 6–10 years
- c ○ 11–15 years
- d ○ 16–20 years
- e ○ 21 years and more

4 The number of training courses received for professional development

- a ○ None
- b ○ 1–5
- c ○ 6–10
- d ○ 11–15
- e ○ 16 and more

APPENDIX 2: METACOGNITIVE AWARENESS INVENTORY FOR TEACHERS

The MAIT is a list of 24 statements. There are no right or wrong answers in this list of statements. It is simply a matter of what is true for you. Read every statement carefully and choose the one that best describes you. Thank you very much for your participation.

1= Strongly Disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree

1. I am aware of the strengths and weaknesses in my teaching.	1 2 3 4 5
2. I try to use teaching techniques that worked in the past.	1 2 3 4 5
3. I use my strengths to compensate for my weaknesses in my teaching.	1 2 3 4 5
4. I pace myself while I am teaching in order to have enough time.	1 2 3 4 5
5. I ask myself periodically if I meet my teaching goals while I am teaching.	1 2 3 4 5
6. I ask myself how well I have accomplished my teaching goals once I am finished.	1 2 3 4 5
7. I know what skills are most important in order to be a good teacher.	1 2 3 4 5
8. I have a specific reason for choosing each teaching technique I use in class.	1 2 3 4 5
9. I can motivate myself to teach when I really need to teach.	1 2 3 4 5
10. I set my specific teaching goals before I start teaching.	1 2 3 4 5
11. I find myself assessing how useful my teaching techniques are while I am teaching.	1 2 3 4 5
12. I ask myself if I could have used different techniques after each teaching experience.	1 2 3 4 5
13. I have control over how well I teach.	1 2 3 4 5
14. I am aware of what teaching techniques I use while I am teaching.	1 2 3 4 5
15. I use different teaching techniques depending on the situation.	1 2 3 4 5
16. I ask myself questions about the teaching materials I am going to use.	1 2 3 4 5
17. I check regularly to what extent my students comprehend the topic while I am teaching.	1 2 3 4 5
18. After teaching a point, I ask myself if I'd teach it more effectively next time.	1 2 3 4 5
19. I know what I am expected to teach.	1 2 3 4 5

20. I use helpful teaching techniques automatically.	1 2 3 4 5
21. I know when each teaching technique I use will be most effective.	1 2 3 4 5
22. I organize my time to best accomplish my teaching goals.	1 2 3 4 5
23. I ask myself questions about how well I am doing while I am teaching.	1 2 3 4 5
24. I ask myself if I have considered all possible techniques after teaching a point.	1 2 3 4 5