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AN INVESTIGATION INTO THE RELATIONSHIP BETWEEN THE METACOGNITIVE AWARENESS AND PROFESSIONAL IDENTITY DEVELOPMENT OF EFL INSTRUCTORS WORKING AT SCHOOLS OF FOREIGN LANGUAGES IN TURKISH UNIVERSITIES

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Mine BEKTAŞ tarafından hazırlanan "**An Investigation into the Relationship between the Metacognitive Awareness and Professional Identity Development of EFL Instructors Working at Schools of Foreign Languages in Turkish Universities**" başlıklı bu çalışma, **15.06.2023** tarihinde yapılan savunma sınavı sonucunda başarılı bulunarak, jürimiz tarafından **YÜKSEK LİSANS tezi** olarak kabul edilmiştir.

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Mine BEKTAŞ

ÖZET

ÜNİVERSİTELERİN YABANCI DİLLER YÜKSEKOKULLARINDA ÇALIŞAN İNGİLİZCE ÖĞRETİM GÖREVLİLERİNİN ÜSTBİLİŞSEL FARKINDALIK DÜZEYLERİ VE PROFESYONEL KİMLİK GELİŞİMLERİ ARASINDAKİ İLİŞKİNİN İNCELENMESİ ÜZERİNE BİR ARAŞTIRMA

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Etkili öğretim, belirlenmiş yöntem ve tekniklerin etkin kullanımını ve üstbilişsel düşünmeyi içerir. Üstbilişsel farkındalık, öğretmenlere öğretim uygulamalarının farkına varma ve kontrol etme yeteneği kazandırır, tahmin edilemeyen zorluklarla başa çıkma konusunda yardımcı olur ve öğrencilerin ihtiyaçlarına ve hedeflerine uygun kararlar almasını sağlar. Bu çalışmada, Türkiye'deki yabancı dil yüksekokullarında çalışan İngilizce öğretim görevlilerinin üstbilişsel farkındalıklarının mesleki kimlik gelişimleriyle ilişkisini araştırmak için karma yöntem araştırma yaklaşımı kullanılmıştır. Ayrıca, çalışma, öğretim görevlilerinin yaş, cinsiyet, deneyim, lisans programı, eğitim düzeyi (lisans, yüksek lisans veya doktora), çalıştıkları üniversite türü (devlet/vakıf), aldıkları mesleki gelişim eğitimlerinin sayısı ve mesleki gelişim sertifikalarına göre üstbilişsel farkındalık ve mesleki kimlik düzeyleri arasında anlamlı farklılıklar olup olmadığını araştırmayı amaçlamaktadır. Çalışma, 2022-2023 akademik yılında 216 öğretim görevlisiyle gerçekleştirilmiştir. Nicel veri toplama araçları, Balçıkanlı (2011) tarafından geliştirilen Öğretmenler İçin Üstbilişsel Farkındalık Envanteri ve Cheung (2008) tarafından geliştirilen Profesyonel Kimlik ölçeğidir. Nicel veri analizi, öğretim görevlilerinin yüksek üstbilişsel farkındalık ve mesleki kimlik düzeylerine sahip olduğunu ortaya koymuştur. Ayrıca, ANOVA testi sonuçları, katılımcılar arasında çalıştıkları üniversite türü, katıldıkları mesleki gelişim etkinliklerinin sayısı ve sertifikaya sahip olup olmadıkları açısından anlamlı farklılıklar olduğunu göstermiştir. Ayrıca, Pearson Korelasyon analizi, üstbilişsel farkındalık ve mesleki kimlik düzeyleri arasında güçlü bir pozitif ilişki olduğunu ortaya koymuştur. Yarı yapılandırılmış görüşmelerden elde edilen nitel bulgular, planlama, yansıtıcı pratik, değerlendirme ve mesleki gelişim etkinliklerine katılım gibi üstbilişsel düzeylerini etkileyen faktörlere dikkat çekmiştir. Çalışmanın sonucunda, üstbilişsel farkındalığın öğretmen eğitimine dahil edilmesinin daha güçlü bir mesleki kimlik gelişimi sağlayabileceği sonucuna varılmıştır Çalışma, ileri araştırmalar ve uygulamalar için önerilerle sonuçlanmaktadır.

Anahtar Kelimeler: Üstbilişsel farkındalık, Profesyonel kimlik, Yabancı dil olarak İngilizce öğretimi, İngilizce öğretim görevlileri, Yabancı diller yüksekokulu

ABSTRACT

AN INVESTIGATION INTO THE RELATIONSHIP BETWEEN THE METACOGNITIVE AWARENESS AND PROFESSIONAL IDENTITY DEVELOPMENT OF EFL INSTRUCTORS WORKING AT SCHOOLS OF FOREIGN LANGUAGES IN TURKISH UNIVERSITIES

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Effective teaching involves proficient use of established procedures and techniques and engagement in metacognitive thinking. Metacognition is crucial for teachers as it enables them to develop awareness and control over their teaching practices, navigate unpredictable challenges and make immediate decisions that align with their students' needs and goals. This study employed a mixed methods research approach to explore the metacognitive awareness (MA) of English as a Foreign Language (EFL) instructors and its relationship to their professional identity (PI) development. It also explored whether there were significant differences in the MA and PI levels of instructors based on various factors such as age, gender, experience, undergraduate degree program, level of education (BA, MA or Ph.D.), type of university they work (state/foundation), the number of training courses received and certificates held for professional development. The study was conducted with 216 instructors working at the Foreign Language Schools in Turkey during the 2022–2023 academic year. Quantitative data collection tools were the MA Inventory for Teachers (the MAIT) developed by Balçıkanlı (2011) and the PI Scale (PI) developed by Cheung (2008). Quantitative data analysis revealed that the EFL instructors had a high MA and PI levels. Also, ANOVA test results revealed a significant difference among the participants regarding the type of university they worked at, the number of professional development activities they participated in and whether they held a certificate. Further, the Pearson Correlation analysis demonstrated a strong positive correlation between the MA and the PI levels. The qualitative findings obtained from the semi-structured interviews highlighted the factors contributing to high levels of metacognition, such as planning, reflective practice, evaluation and engagement in professional development activities. It was concluded that incorporating metacognition into teacher training can foster a stronger sense of PI. Finally, the study provides suggestions for further research and practice.

Key Words : Metacognitive awareness, Professional identity, English as a foreign language, EFL instructors, Schools of foreign languages

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ABBREVIATIONS

EFL : English as a foreign language

ELT : English language teaching

ESL : English as a second language

MA : Metacognitive awareness

MAIT : Metacognitive awareness inventory for teachers

PI : Professional identity

1. INTRODUCTION

This chapter provides an overview of the present study, including an introductory theoretical context. It also presents the research questions, the aim and the significance of the study. Additionally, this chapter will introduce key terms relevant to the study.

1.1 Background of the Study

Today, adapting to the changes presented by science and technology requires teachers and students who can access information, analyse the data they reach, solve problems, conduct research, and have questioning skills. Traditional thinking methods are replaced by questioning methods, strategies, and high-level thinking skills (Saavedra & Opfer, 2012). Therefore, as the world becomes more interconnected through globalization, it is necessary to re-evaluate current educational methods and adopt new approaches (Teo, 2019). Due to this requirement, researchers have placed significant emphasis on the concept of metacognition as a crucial aspect of learning and teaching.

Metacognition was introduced to psychology in the 1970s by John H. Flavell, a developmental psychologist. This pioneering scholar coined the term metacognition while researching children's memory based on Piaget's theory of cognitive development. He defined metacognition as "knowledge and cognition about cognitive phenomena" (Flavell, 1979, p.906). More popularly known as thinking about thinking, metacognition involves higher-order thinking, including tasks like planning, monitoring, and evaluating during learning (Livingston, 2003, p. 2).

The connection between metacognition and the ability to "*learn how to learn*" (Georghiades, 2004, p.366) has gained importance in academic learning in the last three decades. Paris and Winograd (1990) stated that students can enhance their learning by being conscious of their thinking when engaging in reading, writing, and problem-solving activities in the classroom. In addition, research demonstrated that metacognitive strategies help learners develop self-regulation and self-direction skills by guiding and consistently adjusting their behaviours in the learning process (Fox & Riconscente, 2008; Schunk, 2008). Learners with metacognitive strategies can also set their learning goals, know how to learn, manage learning activities, choose suitable strategies, and benefit from different learning methods (Mitsea & Drigas, 2019).

Implementing metacognitive strategies among students can be attributed to teachers' metacognitive instruction (Holton & Clarke, 2006; Soodla et al., 2016; Wilson & Bai, 2010). Teachers need to consider how their teaching can develop their students' metacognitive abilities. In addition, research highlights that teachers also need to think about their thinking regarding various aspects of instruction, such as strategies, materials, the personalities and needs of the students, curriculum and assessment. This reflective process, which occurs before, during, and after lessons, aims to maximize teachers' instructional effectiveness (Hartman, 2001).

In the context of EFL teaching, language teachers' metacognitive skills enable them to make critical decisions (Hiver et al., 2021), create engaging and supportive learning environments for L2 learners and adapt to the constantly changing educational environment (Lin et al., 2005) and ensure effective instruction (Balçıkanlı, 2011; Jiang et al., 2016; Öztürk & Özyurt, 2020).

By employing metacognitive skills, teachers can understand their thoughts and actions better and effectively address the challenges in their teaching. This ability, in turn, enables them to maintain a strong commitment to their profession. This aspect of teaching is closely tied to teachers' professional identity (Han, 2022). Therefore, exploring the effect of metacognition on identity development can contribute to the growth and development of teachers and help improve teacher education programs and the effectiveness of instruction.

1.2 Aim of the Study

The current study explores the MA level of EFL instructors working at Foreign Language Schools of universities in Turkey and to what extent this awareness is related to their PI development.

By conducting this study on instructors' MA and PI, we aimed to contribute to the ongoing restructuring of teacher education and teaching practices, ultimately resulting in improved learning outcomes and effective learning and teaching environment.

1.3 Research Questions

The following research questions will be addressed within the framework of the purpose of the research by using a mixed research design.

Quantitative research questions

1. What are the MA and PI levels of the EFL instructors working at Schools of Foreign Languages in Turkish universities?

2. Do EFL instructors' MA levels and PI perceptions significantly differ in terms of the different variables (gender, age, department graduated, years of experience, type of university they work at (state / foundation), certificates they hold (e.g., CELTA, DELTA, TEFL), number of the seminars / conferences/ workshops attended?

3. Is there any relationship between Turkish EFL instructors' MA levels and PI?

4. Does the MA variable significantly predict the PI variable?

Qualitative research questions

1. What do EFL instructors think about their metacognitive skills related to their teaching?

2. What do EFL instructors think contributes to their MA?

3. What are EFL instructors' perceptions regarding an ideal teacher?

1.4 Significance of the Study

The study will contribute positively to the field by analysing the relationship between MA and PI in an EFL setting. Much of the previous research has investigated teacher metacognition in different contexts; the US (e.g., Hiver et al., 2019), Korea (e.g., Hiver & Whitehead, 2018); Iran (e.g., Ghonsooly et al.,2014; Jafarzadeh, 2014; Karimi & Ziaabadi, 2019; Nahrkhalaji, 2014; Salari & Farahian, 2022). In Turkish context, most of the studies have examined pre-service and early years of teaching (e.g., Balçıkanlı, 2010; Sarıçoban & Kırmızı, 2020). However, there are limited studies on the metacognition of in-service EFL teachers working at universities (e.g., Keçik, 2021; Öztürk, 2017; Üstünbaş & Alagözlü, 2021).

The issue of EFL or ESL teachers' PI development has been investigated in terms of reflective practice (Farrell, 2011); action research (Yuan & Burns, 2017); self-esteem (Motallebzadeh & Kazemi, 2018); identity negotiation through teacher education courses (Yazan, 2017); emotions as part of identity development (Yazan & Peercy, 2016); non-native English-speaking teachers (Widodo et al., 2020). In addition, there have been studies in different contexts, such as China (Tsui, 2007; Yuan & Burns, 2017); Iran (Sheybani & Miri, 2019); Korea (Han, 2016, 2017) and Turkey (Keskin & Zaimoğlu, 2021). In the Turkish context, there exist studies on the PI of EFL teachers in terms of

perceptions of teachers (Aydın, 2019); action research (Dikilitaş & Yaylı, 2018) and with university instructors (Ölmez, 2016).

Previous literature suggests that there may be a link between teachers' MA and PI development because identity formation is a type of metacognitive thinking involving comparing, selecting, adopting, rejecting, and negotiating meanings and understandings (Han, 2021b). Several studies have examined the relationship between teachers' metacognition and professional development (Brown, 2009; Han, 2022). Previous research has frequently examined primary and secondary or high school teachers' MA and PI (Han, 2021a, 2021b) or pre-service teachers (Graham & Phelps, 2002). In Turkey, a study has investigated the relationship between 21st-century skills, metacognitive awareness, and identity perceptions of pre-service teachers (Cengelci & Eğmir, 2021). However, no study focuses on EFL teachers' PI beliefs regarding metacognition to the researcher's knowledge. This study will provide insight into the relationship between EFL instructors' MA and PI development in Turkey with a mixed-method approach.

Another contribution of this study is to provide an adapted version of a scale developed in a non-Turkish context. The PI identity scale by Cheung (2008) was originally constructed in a setting (Hong Kong) with a population of in-service teachers. Considering this significant fact, confirmatory and exploratory factor analyses were conducted on this scale to meet the requirements of this study. As a result, the PI scale was made available that can be employed in the Turkish context.

1.5 Definitions of Key Terms

Metacognition: "*Awareness of one's own thinking, awareness of the content of one's conceptions, an active monitoring of one's cognitive processes, an attempt to regulate one's cognitive processes in relationship to further learning, and an application of a set of heuristics as an effective device for helping people organize their methods of attack on problems in general*" (Hennessey, 1999, p. 3)

Metacognitive Awareness: Refers to our feelings and experiences when we engage in cognitive processes (Flavell,1979). It includes high-order cognitive abilities that include declarative knowledge (knowing "what"), procedural knowledge (knowing "how"), and conditional knowledge (knowing "why" and "when"). It also involves the regulation of cognition, which highlights three skills: planning, monitoring, and evaluation (Schraw & Dennison, 1994).

Metacognitive Knowledge: Refers to explicit knowledge about our cognitive strengths and weaknesses (Flavell,1979).

Professional Identity: In the teaching context, it explains how teachers view themselves regarding their roles, responsibilities, values, and beliefs, as well as their relationships with students, colleagues, and the community. This sense of PI can affect their teaching practices, decision-making, and interactions with others (Han, 2021).

2. LITERATURE REVIEW

In this chapter, the literature related to the study is carefully reviewed and presented under various sub-headings. After a brief introduction, first, the definition of metacognition and its models are discussed. Next, studies on metacognition in learning, teaching and EFL teaching are summarized. Then, the concept of PI is described within the context of teaching in other fields and specifically in the EFL situation in Turkey. Lastly, the relationship between MA and PI is s explored, highlighting the existing research that shed light on their interconnected nature.

2.1 Definitions of Metacognition

Many definitions have been proposed by researchers in the fields of cognitive, developmental, and educational psychology. However, the growing interest in metacognition has led a need for more explicit consensus on the definition of metacognition.

Among the diversity of definitions of metacognition, some standard features can be identified in the following descriptions of this *"fuzzy*" term (Scott & Levy, 2013, p.120).

"Metacognition refers, among other things, to the active monitoring and consequent regulation and orchestration of these processes concerning the cognitive objects or data on which they bear, usually in the service of some concrete goal or objective" (Flavell, 1976, as cited in Prytula, 2012).

According to Schraw (1998), metacognition involves understanding how to perform a task, whereas cognition refers to the performance of the task such as acquiring, processing, and using information. Metacognition is the awareness and regulation of these cognitive processes involving planning, monitoring, and evaluating one's cognitive processes to achieve a goal.

The educational psychologists, Jacobs and Paris (1987) defined metacognition as *"conscious awareness about cognitive aspects of thinking which can be demonstrated, communicated, examined, and discussed"* (p.258).

Paris and Winograd (1990) further defined metacognition as the *"self-appraisal" and "self-management"* of cognition (p.17). Self-appraisal includes reflecting on one's understanding, abilities, and emotional state during learning while self-management includes organizing problem-solving strategies. Another definition provided by Griffith

and Ruan (2005) stated that metacognitive individuals demonstrate an awareness and regulation of their mental processes, therefore, they know how to learn and what they need to do.

Schraw and Dennison (1994) described MA as an individual's ability to plan, monitor and apply suitable strategies to improve learning performance. It is accepted as a requirement for effective learning as learners with metacognition can identify their strengths and weaknesses. Therefore, learners can understand, reflect on, control, understand, consciously and regularly manage their cognitive skills and accordingly apply necessary strategies.

Metacognition involves advanced thinking skills that allow learners to manage learning tasks by monitoring, evaluating, and regulating cognitive processes (Livingston, 2003). Ohtani and Hisasaka (2018) defined metacognition as a higher-order thinking skill enabling active control over cognitive processes and academic performance. Furthermore, metacognition is *"an awareness of and reflections about one's knowledge, experiences, emotions and learning in the contexts of language learning and teaching"* (Haukås, 2018, p.13). Similarly, Soodla et al. (2017) stated that metacognition is related to people's knowledge about their information-processing skills, the nature of cognitive tasks, and the strategies for coping with such tasks.

All the above definitions conclude that metacognition is the ability to be aware of and understand one's cognitive processes, such as planning, strategy selection, monitoring, and self-evaluation to achieve learning objectives. Therefore, within the scope of this study, 'metacognition' and 'MA' are used.

2.2 Two Major Models of Metacognition

2.2.1 Flavell's Model of Metacognition

The theory suggested by Flavell categorized metacognition into four groups: metacognitive knowledge, metacognitive experiences, goals/tasks, and actions/strategies (1979).

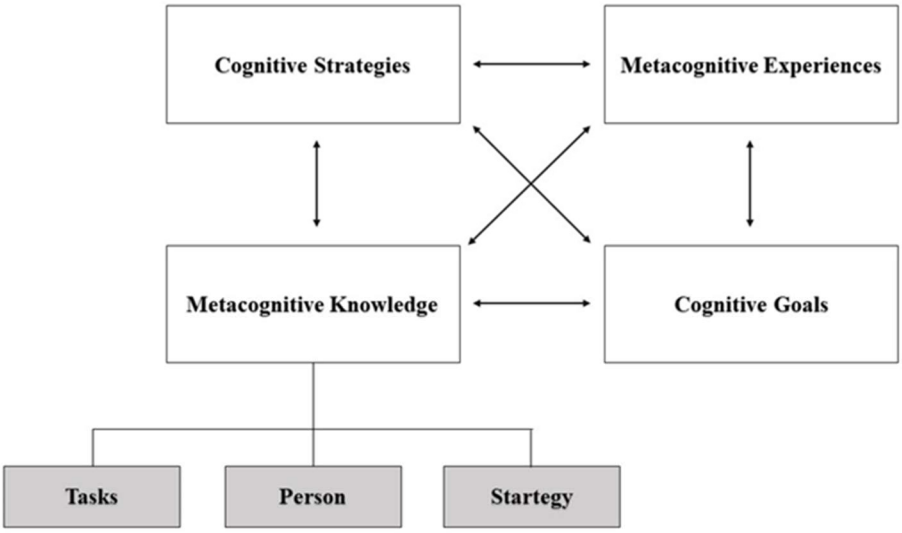

Figure 2.1 Flavell's (1979) Model of Metacognition (redrawn)

Metacognitive knowledge refers to the knowledge and beliefs regarding the factors and variables that influence how our cognitive processes function and interact. To accomplish a goal, this knowledge helps individuals guide and manage their cognitive activities. As illustrated in Figure 2.1, metacognitive knowledge consists of three variables: person, task, and strategy. The "person" category includes all the beliefs, knowledge and awareness about one's and others' cognitive processes. Another variable, task, is the information available during a cognitive activity. The third component is the strategies to achieve goals in the learning process. They are used to evaluate and monitor the effectiveness of cognitive tasks, such as self-testing whether one has understood the task. Individuals with metacognitive strategies can plan, evaluate, and improve their performance. In situations requiring adaptation, they can select the most suitable strategy, assess its effectiveness, and make necessary changes (Anderson, 2002; Lin et al., 2005). For example, teachers use reflection, a metacognitive strategy, to analyse their teaching and adjust their pace, teaching materials, and methods to suit their students' needs and backgrounds better (Jiang et al., 2016).

Flavell's model involves a component called metacognitive experiences, described as "*items of metacognitive knowledge that have entered consciousness*" (1979, p.908). Making the difference between cognitive and metacognitive strategies clear may be necessary. A metacognitive experience is the feeling an individual experiences when they become aware of a lack of knowledge, such as in understanding a specific chapter. An example of a cognitive goal strategy is rereading this chapter in a textbook to improve

one's knowledge. An example of a metacognitive strategy is asking self-assessment questions to assess his or her understanding followed by another metacognitive experience.

In brief, according to Flavell's model specific metacognitive knowledge can be activated, goals or strategies may be adjusted and, ultimately leading to engagement in different tasks. This highlights the dynamic interaction between metacognitive knowledge, metacognitive experiences, goals, and strategies. While cognitive strategies are applied to facilitate learning progress, metacognitive strategies monitor that progress.

2.2.2 Brown's and Schraw's Model of Metacognition

In the literature, an alternative model to Flavell's was presented (Brown, 1987 as cited in Kallio et.al.,2017). In this model, metacognition involves two components: metacognitive knowledge and metacognitive regulation. Further, other scholars have developed Brown's model (Jacobs & Paris, 1987, Schraw 1998, Schraw & Moshman, 1995). While Flavell's model had its foundation in the field of cognitive psychology and focused on memory, Brown's model and its subsequent advancements were rooted in the fields of education and learning.

Figure 2.2 shows the model of metacognition developed from Brown's model by Schraw (1998).

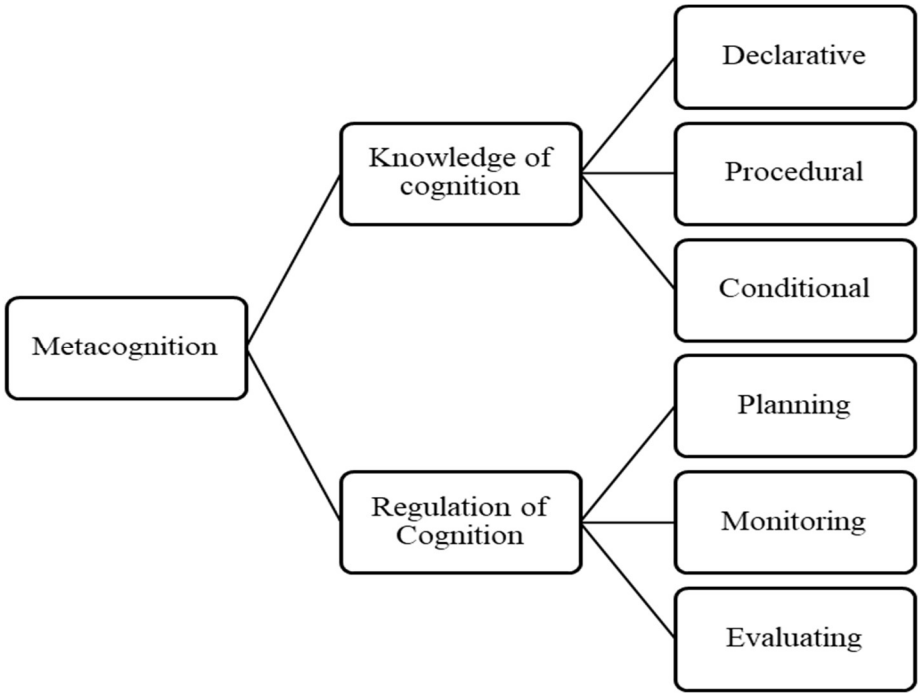

Figure 2.2 Schraw's Model of Metacognition (redrawn)

As illustrated in Figure 2.2, metacognitive knowledge includes declarative, procedural, and conditional knowledge, which account for what learners know about their cognitive processes. Declarative knowledge is described as learners' knowledge about themselves as learners and the factors affecting their cognitive processes or performance. It answers the question, 'what'. Procedural knowledge requires a learner to know how to perform a specific task or strategy. It refers to the knowledge of 'how'. Conditional knowledge is knowing the correct time to apply a strategy and the rationale behind using the chosen skill or strategy. The learner needs to know 'when' and 'why' to apply declarative and procedural knowledge.

Metacognitive regulation is the second component of Schraw's model of cognition. It displays learners' ability to control their thinking and learning process, including planning, monitoring, and evaluation (Paris & Winograd, 1990; Schraw & Moshman, 1995). Planning involves thinking about and selecting appropriate strategies and cognitive resources required to complete a cognitive task. Monitoring is the implementation stage during which the learners become aware of their self-performance as they engage in a cognitive task and accurately evaluate their performance. Thirdly, evaluation refers to analysing and assessing learners' efficiency in their learning performance. Finally, they determine if the learning outcomes match their learning goals

and assess the effectiveness of the regulation processes employed to accomplish the task (Schraw & Moshman, 1995; Schraw, 1998).

Both models have contributed significantly to the understanding of the concept of metacognition. Based on Brown's (1987) two-component model, the Metacognitive Awareness Inventory for Teachers (MAIT) was used in this study (Balçıkanlı, 2011). It was also derived from the Metacognitive Awareness Inventory for Adults (MAI) (Schraw & Denisson, 1994) involving 42 items and 6 subcategories: declarative knowledge, procedural knowledge, conditional knowledge, planning, monitoring, and evaluating.

2.3 Metacognition in Learning and Teaching

Flavell (1979) asserted that MA in learning contributes to success in *"...oral communication of information, oral persuasion, oral comprehension, reading comprehension, writing, language acquisition, attention, memory, problem-solving, social cognition, and various types of self-control and self-instruction"* (p. 906).

MA has been associated with several positive learning outcomes, including improved efficiency and quality of learning (Rahman et al., 2021; Öz, 2005), enhanced use of learner strategies and self-regulated learning (Pintrich et al., 2000) and increased learner autonomy (Zhang, 2016). Research has shown that metacognitively aware individuals know how to learn because they know what to do during their learning process. They can employ, integrate, or evaluate specific strategies effectively during a task and reflect on their performance after completing it (Anderson, 2012; Pintrich, 2002). For example, a study by Urban et al. (2021) found that higher levels of MA in university students were linked with both high intrinsic and extrinsic motivation, and better performance in creative thinking tasks. Another study with college students revealed a significant correlation between the MA and academic achievement (Young & Fry, 2008).

The EFL classroom is an ideal environment for cultivating 21st-century skills, including creativity, communication, collaboration, creativity, discussion, problem-solving, decision-making, autonomous learning, emotion, management, technology literacy, leadership and metacognition (Marin & Pava, 2017). Research in second or foreign language learning has emphasized the importance of metacognition as a vital component in comprehending the factors related to L2 learning (Zhang & Zhang, 2013). In the EFL setting, several studies have been conducted, such as the MA of EFL learners (Farahian & Avarzamani, 2018); the role of metacognition in the development of learners' listening

skills (Bozorgian, 2014); writing skills (Teng, 2020; Zhang & Qin, 2018) and reading skills (Ali & Razali, 2019; Zhang, 2010).

Overall, the research highlights the impact of implementing metacognitive thinking, which leads to improved performance and motivation among learners. In the 21st century, students are expected to be lifelong learners, understand their own thinking and learning processes, and be able to use suitable strategies while solving problems both in school and in life (Georghiades, 2004). To teach students metacognitive skills, teachers must be metacognitive and be aware of their metacognition levels (Kallio et al., 2017). Therefore, teacher metacognition is essential to explore because one cannot teach what one does not know (Hiver et al., 2021).

There are various terms used to describe metacognitive instruction. This adaptation skill was described as "*thoughtfully adaptive*" by Duffy (2006). Lin et al. (2005) suggested the term "*adaptive metacognition*," which teachers should possess to benefit in unpredictable and complex learning environments. Scharff and Draeger stated "*metacognitive instruction continuously takes the pulse of what is going on*" (2015, p.4).

Several studies have concluded that teachers with higher MA are more successful and effective in terms of choosing the most suitable methods, evaluating their effectiveness, and making changes if needed (Lin et al., 2005), adapting their teaching pace, materials, and methods to suit the specific backgrounds and needs of their students (Jiang et al., 2016); being flexibility to navigate the unpredictable and varied nature of the classroom context (Parsons et al., 2017); being responsive to students and situations (Fairbanks et al., 2009); helping students to become metacognitive (Wilson & Bai, 2010) and reconstructing identities (Han, 2021a, 2021b, 2022; Yuan & Zhang, 2020).

Focusing on metacognition in learning and instruction, Hartman (2001) classifies metacognitive teaching as teaching with and for metacognition. The scholar believes that "*teaching with metacognition*" (p.149) is an effective method to increase the effectiveness of instruction. It requires teachers to think about their thinking before, during, and after lessons. They need to monitor and self-regulate their teaching activities concerning their instructional goals, teaching strategies, materials, students' characteristics and needs, and curriculum, instruction, and assessment issues. Teachers need to experiment with alternative methods or techniques strategically and evaluate their effectiveness to meet the needs of students and the same students at different times and situations.

Consequently, to ensure students' learning, teachers need to think metacognitively. Besides, teaching for metacognition requires teachers to understand their instruction.

Several studies have investigated the effect of metacognition on the effectiveness of professional development. For example, Rosemary (2006) explained a specific instrument, the Teacher Learning Instrument (TLI), a metacognitive tool based on Vygotsky's sociocultural theory in a study moving beyond conventional professional development methods. The TLI involved collaborative inquiry in real school settings, where a literacy coach and a primary grade teacher analysed their lesson transcripts to identify what worked and what needed improvement. Similarly, Prytula (2012) investigated teacher metacognition within a professional learning community (PLC). The results showed that the PLC was a supportive environment for promoting teacher metacognition, and it provided an appropriate context for studying metacognition due to its reflective and conversational nature. Additionally, a recent study examined the effect of teacher involvement in a journal intervention program on improving metacognitive teaching practices (Scharff et al., 2021). The findings demonstrated that journals could support instructors in reflecting on their actions, planning for adjustments, and implementing alternative, evidence-based practices.

Considering the metacognitive component of teacher professionalism, Duffy (2006) proposed metacognition as an alternative to training that focuses on passive knowledge acquisition and expert advice. Training expects teachers to act like followers and refrain from "*thinking on their feet*" (p.300). However, metacognition is an option that shows greater promise and emphasizes intentional, deliberate activity in contrast to technical compliance. In other words, metacognition provides the opportunity to cultivate teachers with a proactive mindset and the emotional strength to "take charge" instead of being passive information consumers. As teacher learning precedes student learning (Prytula, 2012), further research on teacher metacognition is needed to manage teachers' professional development effectively.

In conclusion, teachers with higher metacognitive awareness can select effective teaching strategies, adapt instruction to meet diverse student needs, and encourage metacognition in their students. The findings of the studies have demonstrated that incorporating metacognition into teacher training can offer effective alternatives to traditional professional development methods. These metacognitive approaches can provide opportunities for teachers to reflect on their teaching strategies, and identify their

strengths and weaknesses. This awareness, in turn, can improve their instructional practices' effectiveness.

Therefore, further research on teacher metacognition can contribute to effective teaching by conducting studies to answer questions as Duffy et al. (2009) asked: *"How is metacognition related to teaching? Can teachers learn to be metacognitive while engaging in the complex and multi-dimensional teaching act? What should be the future research agenda on teachers and metacognition?"* (p.240).

2.3.1 Related Studies on Teachers' Metacognition in Turkey

Upon reviewing research on metacognition conducted in disciplines other than English in the context of Turkey, it is evident that most research focuses on pre-service teachers. Several studies have emphasized the significance of metacognition in instructional practices of pre-service teachers by conducting qualitative studies through observations, lesson plans, reflection papers and interviews (Öztürk & Özyurt, 2020; Yerdelen et al.,2015). Focusing on some demographic variables, Bulut (2018) explored the MA levels of classroom and pre-school teachers using the MA Inventory (MAI) developed by Schraw and Dennison (1994). The results revealed that gender and branch influenced the MA levels of teachers. However, the impact of experience on MA levels was found insignificant. In the context of teacher candidates, Bars and Oral (2017) employed a correlational design to explore perceptions of MA, revealing its significant influence on self-efficacy in teaching and problem-solving skills. Another quantitative study by Koc and Kuvac (2016) investigated the MA levels of pre-service science teachers, observing no significant gender differences. Conducting a mixed-method design, Doğanay and Demir (2011) compared metacognitive strategies of high- and low-achieving prospective teachers at a university in Georgia and Turkey. It was found that the metacognition level of the high-achieving prospective teachers was significantly higher than the level of low-achieving ones in planning, organizing, monitoring, and evaluating skills in the former. Another study was conducted by Şendurur et al. (2011) to examine the relationship between pre-service teachers' MA and demographic variables such as gender and educational background, academic success (GPA and course grade). The study found that gender and educational background were influential factors in predicting differences in MA and GPA results. In addition, female pre-service teachers demonstrated higher MA and GPA scores.

In conclusion, the above-mentioned studies have emphasized the need to enhance the MA of teacher candidates through training programs as it significantly impacts their self-efficacy in teaching and problem-solving abilities. Moreover, the significance of instructional metacognition was highlighted in improving teaching performance. The findings suggested that gender, department, and educational background may influence teachers' MA levels. Overall, the findings of these studies have revealed the significance of MA in EFL teachers, emphasizing the need for further research and the integration of interventions to support teachers' professional development.

2.4 Metacognition and EFL Teaching

Metacognition is a strong predictor of effective teaching practices in language teachers (e.g., Hiver et al.,2021). Effective language teaching involves constant evaluation and decision-making to determine the best methods for learners and situations. These abilities are called metacognitive capacities (Hiver & Whitehead, 2018). Research has demonstrated the contributions of metacognition in language learning and the role of language teachers in supporting students to develop it; however, the metacognition of language teachers still needs to be explored (Haukas, 2018).

To measure teacher metacognition and identify teachers' strengths and weaknesses in various areas of their teaching practices, Jiang et al. (2016) conducted a study to develop a new tool, the Teacher Metacognition Inventory (TMI). The two-phase study was conducted to test and validate the TMI with 226 Chinese in-service middle school teachers. The results from these studies showed that the TMI can be used in educational contexts. It was concluded that TMI could evaluate various teacher metacognition skills, such as planning, monitoring, reflecting, teaching experiences, and pedagogical knowledge. Also, it could function as a checklist for reflective instruction.

Several studies were conducted in Iran examining the impact of metacognition on teaching EFL. A recent quantitative correlation design study with 200 EFL teachers by Salari and Farahian (2022) found significant positive relationships between self-efficacy, MA and professional development. Another study by Karimi and Ziaabadi (2019) demonstrated that teacher MA positively impacts teacher credibility and teacher motivation, which in turn influences students' affective learning and motivation. Similarly, in their quantitative study involving 107 EFL teachers in Iran, Ghonsooly et al. (2014) revealed that both teacher self-efficacy and metacognition were linked to academic achievement, with metacognition having a stronger impact than self-efficacy.

Jafarzadeh (2014) explored the role of metacognition in Teacher Training Center (TTC) programs for experienced and inexperienced EFL teachers while Nahrkhalaji (2014) highlighted the influence of teaching experience and educational background on teachers' metacognitive awareness.

Despite many studies on the contribution to metacognition on EFL learning or learners, there needs to be more research on teachers. The current studies have emphasized the importance of MA in improving language teaching practices and provided implications for teachers and teacher educators. The findings highlighted the need for incorporating metacognitive strategies in teacher training programs to enhance teaching effectiveness and support teachers in developing their MA, leading to professional development and improved student learning.

2.4.1 Related Studies on EFL Teachers' Metacognition in Turkey

Several studies have investigated the link between EFL pre-service teachers' metacognition and their thinking styles (Çakıcı, 2018; Sarıçoban & Kırmızı, 2020) teaching practice (Balçıkanlı, 2010) and motivation (Öz, 2016). In addition, some studies have been conducted with university instructors (Keçik, 2021; Öztürk, 2017; Üstünbaş & Alagözlü, 2021). While some of the studies utilized the Metacognitive Awareness Inventory developed by Schraw and Dennison (Çakıcı, 2018; Üstünbaş & Alagözlü, 2021; Sarıçoban & Kırmızı, 2020), some studies used the Metacognitive Awareness Inventory for Teachers (MAIT) developed by Balçıkanlı (2011) (Keçik, 2021).

In a School of Foreign Languages, Keçik (2021) investigated the MA levels of 161EFL instructors using a non-experimental quantitative research design during the 2020-2021 academic year. The study focused on how instructors could support and strengthen the learning processes of students and equip them with metacognitive skills Moreover, the study examined if there was a significant difference based on their age, education level, teaching experience, and the number of professional development training. The data was collected using the MA Inventory for Teachers (MAIT) created by Balçıkanlı (2011). The study found that the EFL instructors had a high MA. The declarative knowledge subcategory received the highest score, whereas the evaluating subcategory received the lowest. In terms of the demographic variables, a substantial difference was found.

In a similar context, Öztürk's (2017) study investigated language instructors' MA and their competence in teaching metacognition. The participants were assessed through the MA

Inventory developed by Schraw and Dennison (1994) and think-aloud protocols while planning a reading lesson. The findings revealed that most participants had high levels of MA but initially lacked knowledge and competence in teaching metacognition. However, after participating in a professional development module on teaching for metacognition, highly metacognitive teachers developed original lesson plans incorporating metacognitive instruction; furthermore, following the professional development training, half of the participants demonstrated a positive attitude towards teaching metacognition. Therefore, this study emphasized the positive impact of professional development on teaching metacognition.

Conducting a quantitative study with pre-service EFL teachers, Sarıçoban and Kırmızı (2020) examined the MA and the potential relationship between thinking styles, both of which are considered to have a significant impact on the processes of learning and thinking. Concerning metacognition, it was concluded that future L2 teachers possessed an average MA. The study also revealed that the most prominent thinking styles associated with metacognition are "*legislative, judicial, monarchic, and anarchic thinking styles, and legislative, executive, monarchic, and internal*" (p.1032).

In a similar vein, Çakıcı (2018) examined the relationship between MA and critical thinking skills and the effect of gender and years of experience on this relationship among 218 pre-service English language teachers. MA Inventory developed by Schraw and Dennison (1994) and the Critical Thinking Questionnaire developed by Honey (2000) were used to gather data. The results showed a strong positive correlation between MA and critical thinking skills. However, gender was found not to affect awareness levels or critical thinking; in contrast, years of experience as a pre-service EFL teacher substantially impacted MA and critical thinking skills.

A comparative study between pre-service and in-service English language teachers was conducted to compare teacher self-efficacy and MA levels (Üstünbaş & Alagözlü,2021). Using a mixed-method approach with 150 participants, including 97 pre-service teachers and 53 in-service teachers, the study employed a self-efficacy scale developed by the researchers and the MA Inventory by Schraw and Dennison (1994). In addition, semi-structured interviews were conducted to analyse the quantitative data results further. The results showed that while in-service and pre-service teachers' self-efficacy levels were similar, in-service teachers displayed higher MA than pre-service teachers. In addition, the t-test results showed no significant difference between the MA of male and female

teachers. However, the study indicated that MA was significantly influenced by academic success.

Likewise, Öz (2016) examined the relationship between MA and academic motivation utilizing the MA Inventory (Schraw & Dennison, 1994) and the Academic Motivations Scale. One hundred four pre-service English teachers at a state university in Turkey participated in the study. Results indicated that 65% of teachers reported a very high level of MA in the knowledge of cognition, while 63% exhibited a very high MA in the regulation of cognition. The findings suggested that integrating MA training in teacher education programs could enhance teachers' understanding and effective use of metacognitive skills, improving teaching practices and student motivation in second language learning.

Another study conducted with pre-service EFL teachers investigated the relationship between using social networking in MA and teaching practice (Balçıkanlı, 2010). This mixed research study collected data using the modified MA Inventory for Teachers (MAIT) developed from the MA Inventory (MAI) by Schraw and Dennison (1994). The results showed a significant increase in MA in regulating cognition rather than knowledge of cognition. In addition to the quantitative data, the researcher collected qualitative data through weekly reflections, peer evaluations, stimulated recall sessions, and retrospective interviews. Facebook was used as a platform to upload weekly personal post-reflection evaluations. The qualitative data showed that the reflections on social networking improved teaching practice and increased autonomous teaching skills and MA. The findings of this study suggested that integrating technology and online platforms into teacher education programs can be an effective way to improve metacognition and teaching skills.

All the studies have explored the concept of metacognition, its relationship with other variables such as gender or teaching experience, its impact on teaching performance, and the effectiveness of professional development programs or workshops. The studies primarily involved pre-service and in-service EFL teachers or instructors. In terms of research design, the studies predominantly employed quantitative research methodologies, utilizing various scales, inventories, and questionnaires to collect data on MA, self-efficacy, thinking styles, and critical thinking skills. A few studies employed mixed-method designs, combining quantitative data collection with qualitative methods such as interviews, reflections, and observations. While some studies reported high levels

of metacognition among teachers, others highlighted the need for improvement in specific areas.

In conclusion, these studies contribute to the understanding of MA in the EFL context and its relationship with various factors. Moreover, the conclusions provide insights into the implications for teacher training, professional development, and the effective implementation of metacognitive strategies in language instruction. The need for continuous training programs to enhance teachers' MA and its application in language instruction has been emphasized.

2.5 Teachers' Professional Identity

Identity is a concept that refers to the characteristics that make individuals unique and distinguish them from others. The concept is often understood as how an individual perceives himself/herself with others and within various contexts (Pennington & Richards, 2016; Richards, 2008). Questions such as "Who am I at this moment?", "What kind of teacher do I want to be?" and "How do I see my role as a teacher?" are considered crucial for teachers to develop or comprehend their current PI (Cheung, 2008, p.377).

Identity is a constantly changing, multifaceted and dynamic concept (Thomas & Beauchamp, 2009). It is the fundamental element of the teaching profession, offering teachers a structure to form their concepts about "*how to act*" and "*how to be*" in their workplace and society (Sachs, 2005, p.15). In other words, becoming a teacher involves developing an identity influenced by individual experiences and values and being flexible enough to undergo negotiation, change, and transformation.

This identity is shaped by teachers' beliefs about what it means to be a teacher and the type of teacher they want to be (Sachs, 2001). From the perspective of teacher cognition, teaching is not simply a matter of transferring knowledge and skills. It is considered a more intricate cognitive process influenced by various factors such as the classroom setting, the teacher's specific instructional goals, the students' attitudes and reactions to the lesson, and the teacher's management of critical moments throughout the class. It also includes the teachers' mental lives and how teachers' beliefs, thoughts, and thinking processes impact their knowledge of teaching and classroom practices (Borg, 2006; Izadinia, 2013).

Teachers' identity is shaped by their understanding of their roles, responsibilities, values, and relationships with students, colleagues, and the wider community (Han, 2021).

Similarly, a longitudinal study was conducted to examine what determined the identities of 14 novice teachers during their first two years of teaching (Flores & Day, 2006). The results revealed that prior schooling experiences, practical training and various professional contexts can influence a teacher's professional identity's development, change, and reconstruction. It was also found that collaborative environments contribute to positive attitudes toward teaching among teachers.

Moreover, emotions also shape teachers' identities (Jiang et al., 2016). Other studies have argued that teachers should use metacognition to analyse and regulate their thoughts, emotions, and behaviours to improve their self-awareness and build resilience and dedication to teaching. The concept of PI for EFL teachers can be understood as "*a metacognitive power*" or force that motivates and guides their thinking and behaviour (Han, 2016, p.3). By utilizing metacognitive skills, teachers can better understand their thoughts and actions, which can help them navigate the challenges of teaching and stay committed to their profession (Altan et al., 2019; Yuan & Zhang, 2020).

Research on identity in the teaching context can help teachers, educators, policymakers, and researchers understand how teachers establish and develop their identities. Several studies have found that participating in collaborative environments helps develop PI (Han, 2021). Therefore, incorporating metacognitive strategies into teacher training can enable teachers to reflect on their thoughts, emotions, and behaviours. Reflection is recognized to better understand teachers' sense of self (Farrell, 2011; Graham & Phelps, 2002). This reflection skill can result in enhanced instructional practices and improved student outcomes. Investigating the relationship between metacognition and identity can explain this study's research gap. In conclusion, research on identity and metacognition in teaching can contribute to teachers' ongoing professional development and effectiveness.

2.5.1 Teachers' Professional Identity in Language Teaching

This review includes several studies exploring the formation of PI among language teachers, focusing on various contexts and factors contributing to identity development. These studies can provide insights into exploring how novice and experienced language teachers construct their PI and how this complex and multifaceted process is shaped by pedagogical knowledge, personal experiences, educational policies, teaching practices, cultural factors and professional growth (e.g., Beijaard et al., 2004; Flores & Day, 2006). PI construction is a dynamic and evolving process during which teachers benefit from

English language teaching certificates (Mora et al., 2014). Teachers can acquire professional experiences in teaching practice from various professional development activities. Similarly, Farrell's (2011) study in Canada uncovered the talks of three experienced ESL teachers during regular group discussions over two years as they reflected on their work experiences as part of a teacher development group. Sixteen role identities were identified and grouped into three main categories: the teacher as a manager, the teacher as a professional, and the teacher as an acculturator. Another study by Han (2017) conducted to define and understand the dynamics of PI using a socio-psychological perspective revealed seven distinct identities: "*national identity, English teacher identity, teacher identity, learner identity, public servant identity, gender identity, and personal identity"* (p.562*).* All these types of identities were found to interact with each other and the English language teaching environment in complex ways. In this context, identity is seen as a dynamic and context-dependent construct that develops through interactions with others, resulting in the (re)construction of many identities in various circumstances (Danielewicz, 2001).

In the context of Chinese EFL teaching, several studies were conducted to investigate PI. For example, Widodo et al. (2020) explored how four Chinese language teachers established their professional identities to challenge the privilege of native English-speaking teachers (NESTs). To challenge the idea of native-speakerism, the study suggested incorporating in-service education programs to update ELT professionals on recent advances in applied linguistics theories and teaching English to non-native speakers. In another study, Yuan and Burns (2017) examined how two EFL teachers constructed and reconstructed their identities by engaging in action research (AR). Remarkably, they shifted their attention from simply transferring knowledge to being more flexible and creative in meeting the various learning needs of their learners. Moreover, collaboration during AR contributed to developing their professional identities as collaborators.

Likewise, in Iran, several studies have demonstrated that teachers' identity is linked with various components. For example, critical thinking has been reported to have a strong and significant positive correlation with PI. In addition, job satisfaction positively influenced professional identity, commitment, and instructional skills among EFL teachers in Iran (Sheybani & Miri, 2019). The qualitative study by Karimi and Mofidi (2019) revealed that language teachers could construct identities shaped by personal experiences, long-

term involvement in teaching, the context in which they work, their social environment, a network of friends and colleagues, and their future-oriented goals. In addition, the tensions and conflicts teachers face contribute to negotiating multiple identities. By adopting a quantitative approach, another study found a positive and significant link between self-esteem and PI. Therefore, it was suggested that EFL teachers with high levels of five sub-constructs of self-esteem (satisfaction, knowledge, commitment, adaptation, and communication) were more likely to have a strong sense of professional identity (Motallebzadeh & Kazemi, 2018).

In conclusion, these studies highlighted the dynamic nature of PI and its complex relationship with factors such as pedagogical knowledge, personal experiences, teaching practices and professional growth. The significance of continuous professional development and reflection in constructing and developing teachers' identities was also emphasized. The studies also provided insight into the multifaceted process of identity construction by focusing on different identities such as teacher identities, learner identities, cultural identities, and personal identities. Moreover, practical implications for teacher education and professional development programs to support enhancing teachers' professional identities were presented.

2.5.2 Related Studies on EFL Teachers' Professional Identity in Turkey

Teachers' perceptions of their PI influence their beliefs, values, teaching effectiveness, commitment to professional development, willingness and adaptability to changes and innovative approaches (Beijaard et al.,2000). Various studies have examined different aspects of EFL teachers' PI and its impact on their professional growth in Turkey.

A mixed-method study of Turkish EFL teachers' perceptions of PI and its relation to their commitment to student needs, school issues, and personal growth and development demonstrated that teachers had a strong PI. Additionally, it was found that female teachers had a more robust PI and were more committed (Keskin & Zaimoğlu, 2021). Similarly, the impact of action research on the PI of language teachers at a Turkish university was investigated by Dikilitaş and Yaylı (2018). The findings revealed that reflection and self-evaluation in action research made the teachers more aware of their responsibilities, their need for professional development, and the value of collaborating with others. The authors also suggested that research led the teachers to think more critically about their teaching, including learner problems and learner-centred teaching. Overall, it was concluded that research helped the teachers to develop a broader sense of their

professional development. Teachers' self-perceptions change over time due to their interactions and collaborations with colleagues, participation in various communities of practice and emotions (Yazan, 2018). In the context of a School of Foreign Languages, Durmaz and Yiğitoğlu (2017) investigated the elements affecting the professional identities of alternatively certified (e.g., ICELT or TESOL) English language instructors (ACELTs). The results from the collected data revealed two main categories of factors affecting the professional identities of ACELTs: the external (institutional, workplace, contextual, educational factors and professional events) and the internal factors (personality, motivation, teaching experience and intuition). In a similar context, Ölmez (2016) examined the PI of EFL instructors. The results revealed that the instructors had well-established professional identities. The findings indicated no significant differences in the development of professional identities based on factors such as undergraduate field of study, recent degree, and teaching experience. The instructors reported that their pedagogical expertise was the most developed aspect of their professional identity, followed by didactic expertise, subject matter expertise, and professional development.

In conclusion, several studies have explored the PI of teachers and its link with various factors, such as commitment to the profession, professional development, reflective practice, collaboration, critical thinking, and in-service training. Considering the studies on these aspects, there still needs to be a gap in understanding the relationship between metacognition and PI. Further research is needed to bridge the gap between these two components to reveal how teachers' metacognitive skills, such as planning, reflective practices, monitoring, evaluation, or adaptation contribute to their professional development. Research could provide valuable insights into effective teaching skills and contribute to improving teacher education and professional development programs.

2.6 The Relationship Between Metacognitive Awareness and Professional Identity

In order to navigate the complexities of their work, language teachers must cultivate and use their metacognitive knowledge, strategies, and experiences (Jiang et al., 2016; Pintrich, 2002). Previous research has emphasized the importance of metacognitive knowledge for teachers in their classroom teaching. This includes understanding their teaching approaches, materials, and assessments concerning their students' learning styles and needs and recognizing their interactions with students (Wilson & Bai, 2010). The leading question of this thesis is whether metacognition was related to the development

of the PI of instructors, as little attention was given to the significance of metacognition in the construction of PI (Yuan & Zhang, 2020).

In the literature, several studies have examined the relationship between metacognition and professional identity. The existing studies were conducted in China, Korea, and Australia (Graham & Phelps, 2002; Han, 2021a) and with teacher education students (Brown, 2009). However, in Turkish, few studies have examined the relationship between these two components with pre-service teachers (Cengelci & Egmir, 2021). In the EFL context, the relationship between metacognition and several factors such as thinking styles (Sarıçoban & Kırmızı, 2020), self-efficacy (Üstünbaş & Alagözlü, 2021); professional development workshops (Öztürk, 2017); motivation (Öz, 2016); the use of social networking (Balçıkanlı, 2010) has been explored. Therefore, this study can fill the gap by investigating the relationship between MA and PI.

In a Chinese context, an experimental study by Yuan and Zhang (2020) with four EFL teachers addressed the following research question: "*How did four language teachers involve themselves metacognitively in re-establishing their identities*? (p. 875). The study highlighted the vital role of teachers' metacognitions in shaping their complex identity work. The study participants employed metacognitive knowledge (e.g., writing journals, visiting schools to learn from colleagues) and strategies (e.g., asking metacognitive questions) to shape and construct new identities. Another quantitative study providing insight into the connection between PI and metacognition, in the context of Korea, used a narrative approach to examine the problem-solving processes of 5 secondary school English teachers. The study concluded that PI and metacognition are interconnected during problem-solving activities in teaching. In other words, metacognition can be described as a driving force for a teacher's PI (Han, 2022).

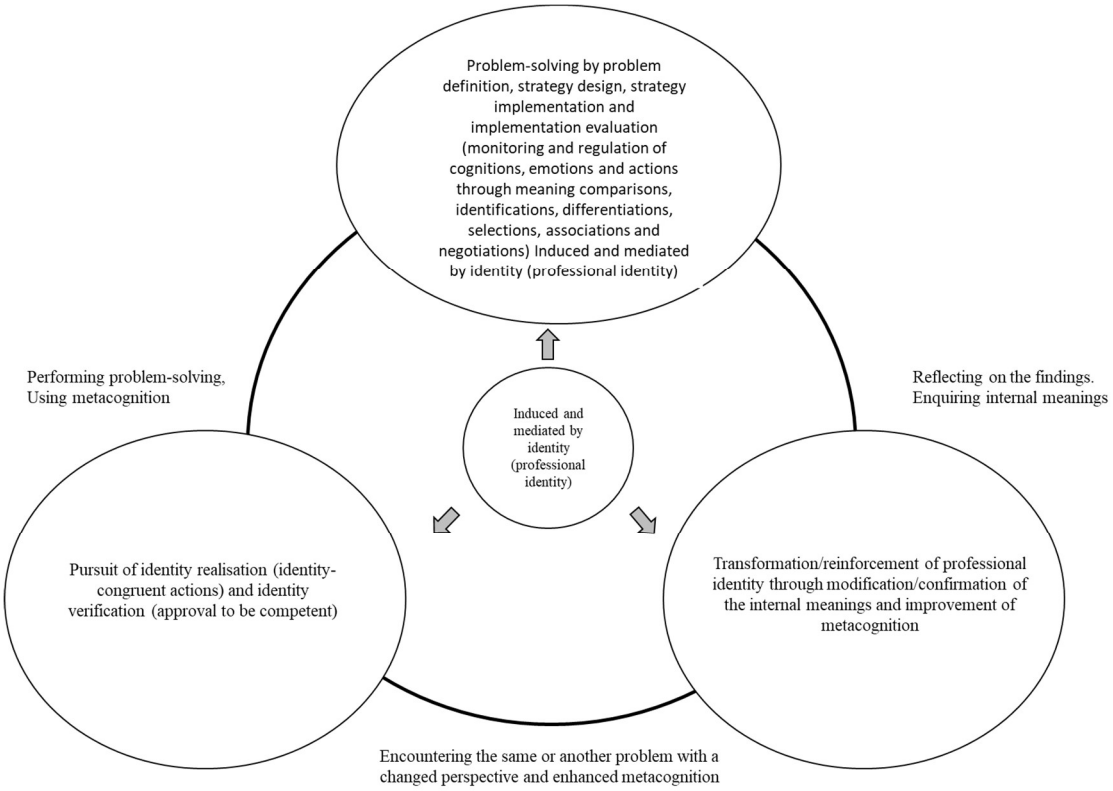

Figure 2.3 Co-operation and co-development of teacher PI and metacognition over the pedagogical problem-solving process (redrawn)

As shown in Figure 2.3, a mutually reinforcing relationship exists between teachers' PI and their use of metacognition. Teachers with well-developed PI are more likely to be motivated and skilled in using metacognition.

In another study by Han (2021a), English teachers' professional identities and thinking strategies were examined using a mixed-method approach. It was proposed that experienced teachers have a strong PI reflected in their metacognitive thinking strategies. Expert teachers used metacognitive thinking processes to regulate their emotions, adapt their thoughts and behaviours, and improve their performance when faced with difficulties or ineffective strategies (Hiver et al., 2021). Thus, experimentation and reflection can improve metacognitive thinking and strengthen a teacher's PI. Teacher educators can support teachers in developing their metacognitive thinking skills and professional identities by providing opportunities for them to reflect on their practice and solve pedagogical problems through collaborative tasks and writing reflective essays. In a qualitative study, Han (2021b) worked with an experienced (ET) and a beginner (BT) English teacher to investigate how they utilized and modified their PI and metacognitive thinking processes through spontaneous collaboration when solving pedagogical

problems. It was concluded that a BT frequently referenced ET's meanings while forming PI. The BT improved his / her meanings and PI through pedagogical experimentation and collaborative discussions and developed more self-critical and professional thinking processes. However, the ET adjusted and improved her meanings or PI through ongoing monitoring and regulation. Additionally, the ET developed metacognitive thinking processes by focusing on weak areas that needed improvement.

In a non-EFL context, Brown (2009) analysed the PI and metacognitive development of approximately 300 interns through a research project. The researcher analysed the effect of mentorship to challenge the "*apprenticeship of observation*" model (p.1), which is learning how to teach by observing and modelling the teaching practices of experienced teachers. This model was also criticized since it might not consider the factors that influence an intern's PI development, such as their ability to adapt to new situations and metacognitive development. The study also highlighted the importance of reflection on both the ideas and emotions of the interns about a particular situation. Similarly, considering the positive impact of reflective practice, Graham and Phelps (2002) presented an example of a teacher education program on developing teacher identity through metacognitive and reflective learning practices. It was highlighted that introducing teacher students to a metacognitive approach could empower them as active and lifelong learners. Moreover, this study demonstrated the benefits of using reflection to support a metacognitive approach to establishing PI as a teacher. Finally, the study highlighted that being a teacher meant being an expert learner. It was stated that a teacher's role involved assessing and controlling the learning process and deciding the appropriate strategies, timing, location, and rationale for implementing those strategies.

In the Turkish context, Cengelci and Egmir (2021) found a positive relationship between pre-service teachers' 21st century learner skills and MA, which influenced their early teacher identity.

2.7 Conclusion

In conclusion, the results of the aforementioned studies have highlighted the significance of MA in the field of education, particularly in language teaching. While there has been considerable research on the contribution of metacognition on language learning and learners, more research on teachers' metacognition is needed to fully understand its impact on instructional practices and professional development. It has been emphasized that integrating metacognition into teacher training programs enables teachers to reflect

on their teaching performances, which in turn lead to self-development. Moreover, the findings have investigated the effect of factors such as gender, educational background, and teaching experience on teachers' MA levels.

The relationship between MA and PI in various contexts and among different types of teachers has been examined in the previous research. However, limited attention has been given to this relationship among EFL instructors in Turkey. This current study aims to address a research gap by examining the impact of MA on the PI of EFL instructors in Turkey. The study aims to suggest some implications for pre-service and in-service teacher education programs by exploring EFL instructors' engagement in metacognitive processes to develop their identities.

3. METHOD

This section describes the methods employed in the study. It covers the research design and procedures, details about the participants and the setting, the tools used to collect data, and the procedures used for analysing the data.

3.1 Research Design

The study employed a mixed research design involving quantitative and qualitative data. This research design was based on the sequential explanatory model which suggests using qualitative data to interpret the results of quantitative data (Ivankova et al.,2006). This model requires consideration of various methodological factors, such as the weight given to quantitative and qualitative data, the sequence of data collection and analysis, and the integration of results from both data types. In a mixed methods sequential explanatory design, the quantitative approach usually prioritizes the qualitative approach. It typically comes first in the sequence and often constitutes the central aspect of mixed-method data collection. The qualitative component, which is usually smaller in scale, follows in the second phase of the research. In this study, quantitative data collection was given priority. Thus, first, quantitative data is collected and analysed. Then, qualitative data are collected in the study's second phase and are related to the results from the quantitative phase.

The present study's data were collected by administering two reliable and valid scales on the MA and PI of in-service English language instructors. The quantitative findings were supported with interviews to gain a more comprehensive understanding. Participants for the interviews were selected through purposeful sampling from among the volunteer teachers in the survey. All the participants who took part were informed about the interview process and ethical considerations related to the study. With their consent, the interviews were recorded, transcribed, and translated into English by the researcher Interviews were held on a scheduled program through video conferencing (Zoom). The interviews, which lasted approximately 25-30 minutes each, were conducted in Turkish for the convenience of the participants. The researcher created interview questions, which were reviewed and modified by two field experts. The questions were designed to elicit the participants' reflections on their MA, professional identity, and the factors that impact these aspects.

The collected data were analysed using quantitative and qualitative methods, using the statistical package SPSS 22 for the former and MAXQDA 2022 software for the latter.

3.2 Setting and Participants

The sample of this research included 216 English language instructors employed in the Schools of Foreign Languages in either a state or foundation university during the 2022–2023 academic year.

Many universities in Turkey offer English preparatory programs for students who still need to meet the English proficiency requirements for their undergraduate program (BA). These programs aim to help students develop the necessary English language skills to succeed in their degree program. For example, EFL instructors at the School of Foreign Languages teach a range of proficiency levels, from beginner to advanced. The specific levels offered may depend on the school and its curriculum, but generally, it covers beginner (A1-A2), Intermediate (B1-B2), and Advanced (C1-C2). These levels are based on the Common European Framework of Reference for Languages (CEFR), the internationally recognized standard for measuring language proficiency.

To identify a sample that could represent the entire population, a simple random sampling method was employed in the research. The universe consists of 5,333 members, 1514 of whom are males and 3819 are females, in 129 state and 75 foundation universities. These statistics are derived from the Council of Higher Education information management system (https://istatistik.yok.gov.tr).

Research stated that in social science research, having several participants, five times the number of statements included in the scales is generally considered sufficient in multivariate statistical analyses (Kline, 2014). The used scales involve 41 items in total. Five times 41 makes 205, which meets the recommended sample size to conduct factor analysis (17+24=41x5= 205).

The surveys were shared on an online platform (docs.google.com). To reach sample groups, the electronic document management system (EDMS), communication information on open sources, school WhatsApp groups, professional social media platforms such as LinkedIn, and direct communication with school administrators were used. One of the survey forms obtained from the 217 participants was considered invalid due to missing data. The remaining 216 participants constituted the sample group of the study.

Table 3.1. illustrates the 216 participants' demographic information during the quantitative data collection of this study.

Table 3.1. The Frequency and Percentage Distributions of Demographic Variables of the Participants

Main categories	Sub-categories	Frequency	Percentage (%)
Gender	Female	160	74.1
	Male	56	25.9
Age	20-26	23	10.6
	27-35	83	38.4
	36-45	69	31.9
	45 +	41	19.0
Type of university they work	State	110	50.9
	Foundation	106	49.1
Undergraduate degree program	English Language Teaching (Faculty of Education)	133	61.6
	English Language and Literature	54	25.0
	English Linguistics	9	4.2
	Translation and Interpreting Studies	11	5.1
	American Culture and Literature	9	4.2
Years of experience	1-5 years	45	20.8
	6-10 years	44	20.4
	11-15 years	52	24.1
	16-20 years	32	14.8
	21 years and over	43	19.9
Degree of education	BA	71	32.9
	MA	123	56.9
	PhD	22	10.2
The number of training courses received for professional development	None	3	1.4
	1-5	49	22.7
	6-10	42	19.4
	11-15	27	12.5
	16 and more	95	44.0
Certificates received	CELTA	32	14.8
	DELTA	17	7.9
	TEFL	18	8.3
	OTHER	129	59.7
	None	20	9.3

Table 3.1. illustrates that 83 teachers with the highest degree were between 27-35 age (38.4%). In addition, 110 (50.9%) instructors worked at state universities and 106 teachers (49.1%) at foundation universities. In terms of their undergraduate programs, it was observed that 133 (61.6%) graduated from the Department of English Language Teaching, Faculty of Education, with the highest degree. Half of the instructors, 123 (56.9%), had a master's degree. Regarding the number of training courses received for professional development, 95 (44.0%) instructors with the highest degree participated in 16 and more courses. 49 (22.7 %) of the instructors stated that they held a type of certificate which are widely recognized worldwide (e.g., CELTA or DELTA).

3.3 Data Collection Instruments

The data collection tools used in this study were a Demographic Information Form created by the researcher, a survey called “Metacognitive Awareness Inventory for Teachers" (MAIT) developed by Balçıkanlı in 2011, and a scale named "Professional Identity" (PI) developed by Cheung in 2008 (Appendices 1, 2 & 3).

3.3.1 Demographic Information Form

In the current study, the researcher prepared a Demographic Information Form to collect extensive data on the sample of the EFL instructors. This data collection tool includes a total of 9 questions, obtaining information about the EFL instructors' age, gender, type of work (state/foundation), number of years of teaching experience, undergraduate program, and the number of training courses such as seminars and workshops they have attended for their professional development and certificates held (CELTA, DELTA or TESOL) (Appendix 1).

3.3.2 Metacognitive Awareness Inventory for Teachers (MAIT)

To obtain quantitative data for the research, a Likert-type scale, MA Inventory for Teachers (MAIT), devised by Balçıkanlı (2011), ranging from Strongly Agree (1) to Disagree (5) Strongly, was used. It was utilized in several previous studies (Ghonsooly et al., 2014; Kallio et al., 2017; Öztürk, 2017) (Appendix 2).

This inventory assesses teachers' awareness and regulation of teaching (teaching with metacognition). The inventory was developed using metacognitive knowledge and regulation subdimensions, including conditional, procedural, and declarative knowledge for metacognitive knowledge and planning, monitoring, and evaluating for metacognitive regulation. It was adapted from the 52-item MA Inventory (MAI) designed for measuring MA in adults by Schraw and Dennison (1994). The items were modified to be suitable for teaching contexts.

Balçıkanlı (2011) confirmed the inventory's construct validity and internal consistency reliability through a 3-stage scale development procedure. In the study's first phase, the inventory was piloted with 323 student teachers in an English Language Teaching program at a state university in Turkey. As a result of factor analysis, six items were removed from the inventory. In the second phase, 36 items were administered to 226 student teachers, and 12 items that did not perform well were removed based on expert

suggestions. In the last step, a revised version of the 24 items was given to 125 student teachers, and the results were consistent with expectations.

The MAIT is a 24-item instrument with six factors: declarative knowledge includes items 1, 7, 13, and 19 (DK; 4 items). Procedural knowledge includes items 2, 8, 14, and 20; (PC; 4 items). Conditional knowledge includes items 3, 9, 15, and 21; (CK; 4 items). Planning includes items 4, 10, 16, 22 (P; 4 items), monitoring includes items 5, 11, 17, 23 (M; 4 items), and evaluating includes items 6, 12,18, 24" (E; 4 items). Regarding reliability data for the inventory, the values ranged from .79 to .85, indicating that the inventory had high alpha scores.

3.3.3 Professional Identity (PI) Scale

The second scale was the 5-point Likert-type scale Teacher PI was formulated by Cheung in 2008 and included 19 items divided into three factors: student needs domain including the items A8, A5, A6, A7, A10, B1, B2; school issues domain including the items C5, C4, D2, C8, C7, C6; professional growth and development domain including the items E1, E6, E4, E3, E2, E5. It was used in several studies in the Turkish context (e.g., Keskin & Zaimoğlu, 2021) (Appendix 3).

Cheung carried out reliability and validity tests through exploratory and confirmatory analysis and came up with alpha results of .80 for the personal growth and development domain, .83 for the school issues domain, and .84 for the student needs domain. The pilot scale consisted of 41 items related to professional practices, which were divided into five domains. Hong Kong in-service teachers participated and completed the Likert scale, which ranges from one to five. Factor analysis with varimax rotation and principal component was carried out on the 41 items of professional practices, resulting in the extraction of 19 items into three factors. To validate the factor analysis of the 19 items, CFA was applied. Therefore, the professionalism of a specific group of Hong Kong in-service teachers was assessed using this reliable and valid measurement method.

3.3.4 Semi-Structured Interview Questions

Semi-structured interviews were conducted to complement the quantitative data obtained from the scales and provide a more comprehensive understanding of the factors affecting the results. Twelve instructors were selected as a sample for qualitative data collection purposely. They were the representatives of those who got the highest scores on the MAIT, being the independent variable. Before conducting the interviews, ethical

considerations were addressed. Voluntary participation was emphasized meaning the participants were allowed to participate or decline without any pressure.

The interview questions were prepared with the research goals in mind and were based on the results of the quantitative data. The questions were carefully designed by the researcher and cross-checked by an expert to align with the research objectives and further explore the results obtained from the quantitative data.

1. What are your strengths in your teaching?

a. Which of your strong skills make a lesson effective?

b. Which of your teaching skills need improvement?

2. What may have contributed to your strengths?

3. How can you describe an ideal/effective language instructor? What makes up the identity of an ideal teacher?

The demographic description of participant teachers in the semi-structured interviews is illustrated in Table 3.2.

Table 3.2. Participants in the Semi-Structured Interviews

N=12	Gender	Age	Type of the university instructors work	Experience	Degree	Number of seminars	Certificates received
T1	Female	36-45	State	16-20	MA	16 and more	CELTA
T2	Female	46+	Foundation	21 and more	BA	16 and more	Other
T3	Female	46+	Foundation	21 and more	MA	16 and more	DELTA
T4	Male	27-35	State	6-10	MA	11-15	Other
T5	Female	20-26	State	1-5	MA	6-10	CELTA
T6	Female	27-35	State	6-10	MA	6-10	Other
T7	Female	27-35	Foundation	11-15	MA	16 and more	TEFL
T8	Female	36-45	State	11-15	PhD	16 and more	TEFL
T9	Female	46+	Foundation	21 and more	MA	16 and more	DELTA
T10	Female	36-45	State	21 and over	PhD	16 and more	Other
T11	Male	36-45	State	11-15	MA	6-10	CELTA
T12	Female	36-45	State	16-20	PhD	16 and more	CELTA

3.4 Data Collection Procedure

The data was gathered in multiple stages after obtaining approval from the Ethics Commission of Ordu University. Initially, quantitative data was collected, followed by qualitative data.

The required permission to conduct the study was obtained from the Ethics Commission of Ordu University (Appendix 4). The study and ethical considerations were outlined in a consent form provided to the potential participants. Participation was voluntary. The

teachers who agreed to participate in the study by reading and signing the consent forms were considered official participants. It is ensured that no personal information will be utilized in this study and that the data collected will only be employed for scientific research purposes.

Qualitative data were gathered through semi-structured interviews to support the quantitative data. Therefore, questions addressing various aspects of MA and PI were formed and asked to the participants in the interviews during the recorded interviews. In addition, participants were informed about recording procedures before the interviews.

3.5 Data Analysis Procedures

Quantitative data were examined by conducting several statistical analyses employing SPSS 22 and AMOS. First, the skewness and kurtosis values were examined concerning the normal distribution of the data. Regarding the normality results, descriptive statistics, Pearson Correlation Test, Independent Samples T-Test, and One-way ANOVA were conducted to analyse the differences of variables between groups considering the expected variances of the variables in the normality test. In addition, simple and multiple linear regression analysis was used to test the MA for predicting the PI variable.

The qualitative data were collected through semi-structured interviews. The interviews were voice recorded based on the participants' agreement, which was transcribed into Turkish, translated into English, and submitted to the expert view before data analysis.

For qualitative data, interviews were uploaded into a data analysis program, MAXQDA 2022 for the content analysis. The interview data was then thematically analysed to examine if it was consistent with the results of the quantitative analysis. according to the steps of (Braun & Clarke, 2006). A six-step process including the familiarization of the researcher with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report was followed (Kiger & Varpio, 2020). In the first stage, data was read to search for meanings before the coding stage. In addition, the transcription stage of the audio data into written form was a good way to become familiar with the data. The accuracy of the transcripts was checked by comparing them to the original audio recordings. The second stage involved the production of initial codes from the data. Next, the codes were analysed and different codes were put under potential themes and sub-themes. After reviewing and naming the themes, the findings

were discussed using participant quotations representing the data in relation to the research questions.

Results were presented in relation to the quantitative and qualitative research questions. To answer quantitative research questions, validated, reliable statistical programs were used in this study. The APA style guidelines were followed when presenting quantitative results in tables. Moreover, to maintain the validity and reliability of the qualitative data analysis, experts participated in the study.

3.6 Reliability and Validity

For this current research, to determine the construct validity of the quantitative instruments, MA inventory, and PI scale, Exploratory Factor Analysis (EFA) was initially conducted. The validity of the scale structure resulting from this analysis was evaluated using Confirmatory Factor Analysis (CFA).

3.6.1 Findings Related to Validity and Reliability Analysis of the MAIT

The original form of the scale consists of 24 statements and six factors. EFA was initially conducted to determine the construct validity of the MAIT, and the validity of the scale structure resulting from this analysis was evaluated using CFA.

Before conducting EFA, to determine whether the data is sufficient to perform factor analysis, the KMO Bartlett test has been conducted. The results showed that the sample size was sufficient to conduct factor analysis (KMO=.875>.60, p<.05).

Table 3.3. MAIT Exploratory Factor Analysis

Items	MAIT Factor 1	MAIT Factor 2	MAIT Factor 3	MAIT Factor 4	Skewness	Kurtosis
MAIT20	.750					
MAIT21	.702					
MAIT13	.693					
MAIT15	.660				-.571	.109
MAIT7	.623					
MAIT14	.618					
MAIT8	.594					
MAIT1	.496					
MAIT12		.807				
MAITIT24		.762				
MAIT18		.711			-.424	1.633
MAITIT23		.665				
MAIT11		.637				
MAIT5			.737			
MAIT6			.642		-.781	.196
MAIT17			.528			
MAIT19			.507			
MAIT4				.742		
MAIT3				.701	-.317	-.714
MAIT2				.665		

As illustrated in Table 3.3, statements numbered 9, 10, 16, and 22 were removed from the scale with the thesis advisor as the difference between factor loadings was less than .10 resulting from the EFA. The statements in the scale formed a structure with four factors after conducting EFA again with the remaining 20 statements,

Factors were renamed by the researcher after getting expert suggestions. Factor I (Teaching Techniques) includes items 1, 7, 8, 13, 14, 15, 20, 21; Factor II (Interaction between Monitoring and Evaluation) 11, 12, 18, 19, 23, 24; Factor III (Planning: Goals) 5, 6, 17; Factor IV (Strategies) 2, 3, 4. When the factor loadings were examined, it was observed that the highest factor loading was .807, and the lowest factor loading was .496. It has been determined that the 4-factor structure explains 57% of the total variance.

These ranges are commonly used to assess the reliability of the coefficient of determination (R2):

• $0 < R^2 < .40$: not reliable

• $.40 < R^2 < .60$: low reliability

• $.60 < R^2 < .80$: moderately reliable

• $.80 < R^2 < 1.00$: highly reliable

The Cronbach's Alpha value for the scale total was .913. This value indicates that the scale reliability is within a high-reliability range. In addition, when the skewness and kurtosis values were examined and found to be within the range of -2 and +2, it can be stated that the data is normally distributed.

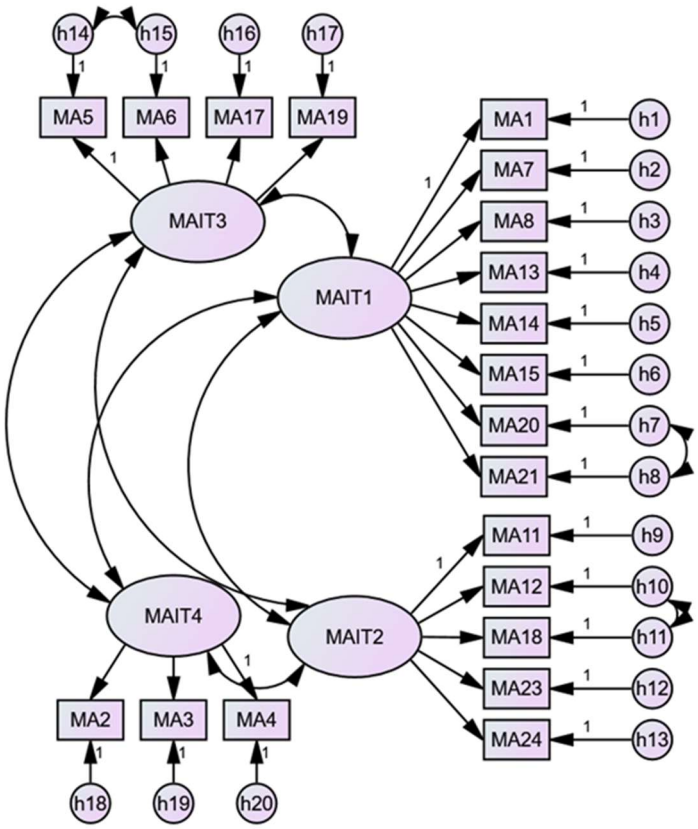

Figure 3.1. MAIT Confirmatory Factor Analysis

As indicated in Figure 3.1., the validity of the scale structure was analysed with the first-order CFA.

The good fit values obtained from the conducted CFA are presented in Table 3.4.

Table 3.4. Good Fit Values for the 4-Factor Structure Construct Validity of the MAIT

Index	Good Fit	Acceptable	Model Value	Goodness to fit level
X^2/df	≤3	≤4-5	1,790	Good Fit
GFI	≥.90	≥.89-.85	.882	Acceptable
CFI	≥.95	≥.90	.920	Good Fit
RMSEA	≤.05	≤.06-.08	.061	Acceptable

As shown in Table 3.4., the good fit values indicate that the factor structure of the inventory obtained from the CFA is valid as it falls within the good fit and acceptable fit ranges.

3.6.2 Findings Related to Validity and Reliability Analysis of PI Scale

The original form of the scale consists of 19 items and three factors. Two items in the scale were removed by the researcher considering the context (C6: Thorough

understanding of and great sensitivity towards the diverse family factors that may affect students' learning process; C7: Involve parents in the school's decision-making whenever appropriate with the aim of continuous school). EFA was initially conducted to determine the construct validity of the PI scale, and the validity of the scale structure resulting from this analysis was evaluated using CFA. The results of the KMO Barlett test conducted before the EFA indicate that the data is sufficient for factor analysis (KMO=0,860>0,60, p<0,05).

Table 3.5. PI Scale Exploratory Factor Analysis

Items	PI Factor 1	PI Factor 2	PI Factor 3	Skewness	Kurtosis
P3	.750				
P4	.744				
P1	.660			-.484	-.243
P6	.650				
P2	.543				
P8		.827			
P12		.754			
P7		.655		-.583	-.029
PI17		.647			
P15		.515			
P10			.794		
P13			.628	-.326	-.543
P5			.554		

Items 9, 11, 14, and 16 in the scale were removed due to their high inter-item correlations (the difference in factor loadings was less than .10). After conducting EFA again with the remaining 13 items, the results showed that the items in the scale formed a 3-factor structure. As illustrated in Table 3.5, it was observed that the highest factor loading was .827, and the lowest factor loading was .515. It has been determined that the total variance of this 3-factor structure explains 58% of the variance.

The Cronbach Alpha value for the scale total was found to be 0.845. This value indicates that the scale has high reliability within a high-reliability range. Additionally, when the skewness and kurtosis values are examined, it can be stated that the data is normally distributed as they fall within the range of -2 and +2.

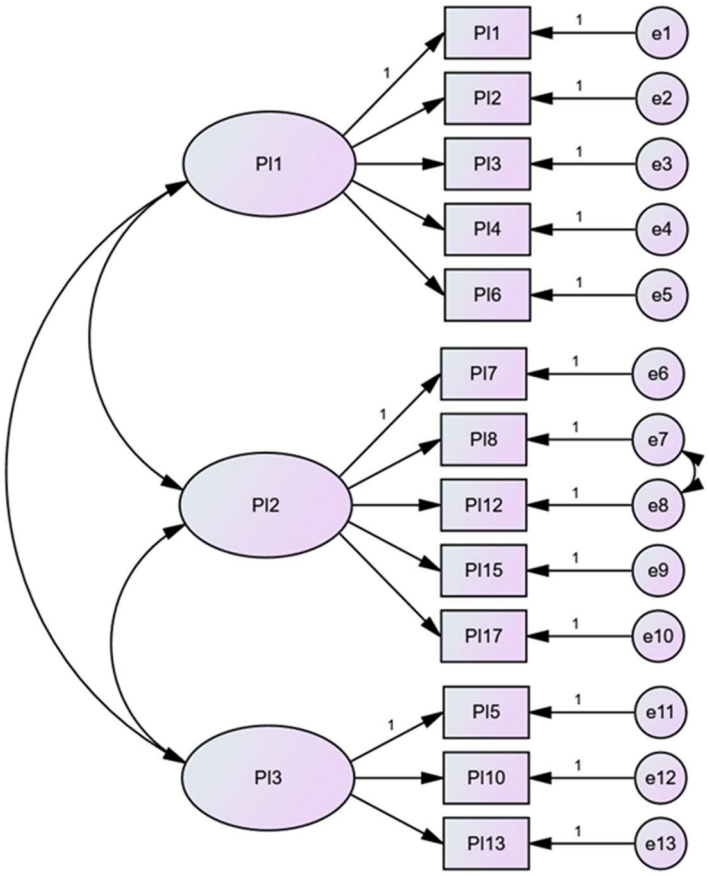

Figure 3.2. PI Scale Confirmatory Factor Analysis

As the figure demonstrated, the validity of the scale structure was analysed with the first-order CFA.

Table 3.6. PI Scale 3-factor Structure Validity Fit Indices

Fit Indexes	Good Fit	Acceptable	Model Value	Goodness to fit level
X^2/df	≤3	≤4-5	2.319	Acceptable
GFI	≥.90	≥.89-.85	.907	Good Fit
CFI	≥.95	≥.90	.911	Acceptable
RMSEA	≤.05	≤..06-.08	.078	Acceptable

The good fit values obtained from the CFA are presented in Table 3.6. The good fit values are within the range of good fit and acceptable fit, indicating that the 3-factor structure obtained by the EFA of the scale is valid.

3.6.3 Reliability and Validity of the Qualitative Data

The interviews were recorded, transcribed, and analysed through a thematic analysis using MAXQDA 2022 software. Direct quotations in each subcategory are presented in the findings section. To establish the study's dependability, an external auditor, who was not involved in the research process, reviewed the study to evaluate the appropriateness of the data and results. The external auditor is an assistant professor in the Faculty of Education. Both the researcher and external coder independently read and coded the data. The expert was requested to review and assess all codes, subcategories, categories, and themes identified in the analysis. Then, they compared their codes and agreed on the codes that matched. Codes that did not match were re-evaluated and modified until a consensus was reached. Afterward, the academic advisor of this thesis study reviewed the result.

3.7 Conclusion

This chapter provided a detailed explanation of the research design, including setting and participants, data collection instruments and analysis procedures. The findings from the analyses discussed in this part will be covered in the following chapter.

4. RESULTS

4.1 Results Related to Quantitative Data

4.1.1 Results on Metacognitive Awareness and Professional Identity Levels

Descriptive findings regarding the levels of MA and PI of the sample group are presented in Table 4.1. and Table 4.2.

Table 4.1. Descriptive Statistics of MA and its Subcategories

Variables	*M*	*SD*
MAIT	4.22	.45
MAIT1 (Teaching techniques)	4.27	.51
MAIT2 (Interaction between monitoring & evaluation)	4.05	.69
MAIT3 (Planning: Goals)	4.43	.52
MAIT4 (Strategies)	4.10	.63

As seen in Table 4.1., the mean ranged from 4.05–4.43, with a standard deviation between .51 to .69. Based on the findings, it can be concluded that EFL instructors possess a high level of MA. The difference among the averages of the components of MAIT was close to each other. Further, the standard deviations are close to one another and below 1.0 score point, indicating that the participants have similar levels of MAIT.

Table 4.2. Descriptive Statistics of PI and its Subcategories

Variables	*M*	*SD*
PI	4.30	.45
PI 1 (Student Needs Domain)	4.27	.52
PI 2 (School Issues Domain)	4.28	.52
PI 3 (Professional Growth and Development)	4.19	.59

As seen in Table 4.2, the mean ranged from 4.19-4.28 with a standard deviation between .45 to .59. Based on the findings, it can be concluded that EFL instructors possess a high level of PI. The difference among the averages of the components of PI was close to each other. Further, the standard deviations are close to one another and below 1.0 score point, indicating that the participants have similar levels of PI.

4.1.2 Results on Demographic Variables Effective in Perceived Levels of EFL Teachers' MA and PI

To answer the second research question related to the demographic variables, descriptive analyses were conducted for each construct.

4.1.2.1 Gender Variable

The role of gender in EFL instructors' MA and PI was analysed by conducting a parametric independent samples t-test.

Table 4.3 shows the independent samples T-test results conducted to investigate whether a statistically significant difference existed between the subcategories of MAIT and PI of the EFL instructors by gender.

Table 4.3 T-test Results in the Levels of MA and PI by Gender

Variables	Gender				T Test Results	
	Female		Male			
	M	***SD***	***M***	***SD***	***t***	***p***
MA	4.24	.454	4.13	.425	-1.629	.105
MAIT1	4.27	.513	4.24	.499	-0.420	.675
MAIT2	**4.13**	**.661**	**3.80**	**.713**	**-3.104**	**.002**
MAIT3	4.45	.535	4.36	.474	-1.172	.243
MAIT4	4.09	.642	4.10	.582	0.034	.973
PI	4.31	.453	4.21	.419	-1.478	.141
PI1	4.29	.529	4.20	.488	-1.058	.291
PI2	4.32	.521	4.17	.498	-1.903	.058
PI3	4.21	.597	4.13	.588	-0.841	.402

As indicated in Table 4.3, there was nearly no difference between females and males. The data also revealed no statistically significant difference between females and males regarding professional identity.

However, regarding sub-dimensions, only the MAIT2 dimension shows a significant difference according to gender. The results indicate that the MAIT2 levels of female participants are significantly higher than those of male participants.

4.1.2.2 Age Variable

One-way analysis of variance (ANOVA) was conducted to determine whether there is a significant difference in the levels of MA and PI of the EFL instructors by age. The results of the ANOVA test conducted are presented in Table 4.4.

Table 4.4 ANOVA Results for MA and PI by the Age Variable

Variables	Age	*N*	*M*	*SD*	*F*	*p*
MA	20-26	23	4.17	.4120	.589	.623
	27-35	83	4.20	.4102		
	36-45	69	4.20	.5213		
	46 and more	41	4.30	.4157		
MA1	20-26	23	4.19	.5446	1.472	.223
	27-35	83	4.25	.4506		
	36-45	69	4.22	.5597		
	46 and more	41	4.41	.5025		
MAIT2	20-26	23	4.06	.7661	.133	.940
	27-35	83	4.04	.6129		
	36-45	69	4.01	.8093		
	46 and more	41	4.10	.5798		
MAIT3	20-26	23	4.35	.4756	.234	.872
	27-35	83	4.42	.5101		
	36-45	69	4.44	.5543		
	46 and more	41	4.46	.5220		
MAIT4	20-26	23	4.08	.6048	.247	.864
	27-35	83	4.05	.6221		
	36-45	69	4.14	.6477		
	46 and more	41	4.12	.6269		
PI	20-26	23	4.38	.3404	1.407	.242
	27-35	83	4.24	.4547		
	36-45	69	4.25	.4779		
	46 and more	41	4.39	.4172		
PI1	20-26	23	4.39	.4409	2.047	0.108
	27-35	83	4.20	.5512		
	36-45	69	4.22	.5316		
	46 and more	41	4.39	.4471		
PI2	20-26	23	4.32	.4776	.234	.873
	27-35	83	4.27	.4777		
	36-45	69	4.25	.6059		
	46 and more	41	4.33	.4763		
PI3	20-26	23	4.04	.6380	1.702	.168
	27-35	83	4.14	.5961		
	36-45	69	4.21	.6099		
	46 and more	41	4.34	.5214		

According to the table 4.4, ANOVA results show that both the overall levels and the levels in the sub-dimensions of MA and PI do not differ significantly by the age of the participants.

4.1.2.3 Type of the University Variable

The ANOVA test was performed to see statistically significant differences between the MA and PI of the EFL instructors by the type of the university (state or foundation) instructors work at.

Table 4.5. T-test Results in the Levels of MA and PI by the Type of the University Variable

Variables	University				T-Test results	
	State		Foundation			
	M	***SD***	***M***	***SD***	***t***	***p***
MA	4.16	.481	4.27	.407	-1.734	.084
MAIT1	**4.19**	**.549**	**4.34**	**.454**	**-2.115**	**.036**
MAIT2	3.97	.736	4.12	.629	-1.607	.110
MAIT3	4.43	.513	4.43	.530	-0.003	.998
MAIT4	4.06	.617	4.13	.636	-0.767	.444
PI	**4.20**	**.445**	**4.38**	**.430**	**-3.049**	**.003**
PI1	4.21	.519	4.33	.513	-1.774	.077
PI2	**4.21**	**.568**	**4.37**	**.449**	**-2.351**	**.020**
PI3	4.20	.611	4.20	.579	-0.013	.990

Table 4.5 illustrates that there is no significant difference in the general level of MA in terms of the type of university instructors' work. However, the general PI level varies significantly depending on the type of university ($p<.05$). The findings indicate that the general level of PI of participants working at foundation universities is higher than those working at state universities.

Regarding sub-dimensions, the MAIT1 dimension of the MA variable and the PI2 dimension of the PI variable show significant differences according to the type of university. The findings indicate that the MAIT1 and PI2 of participants working at foundation universities are higher than those of participants working at state universities.

4.1.2.4 Undergraduate Degree Program Variable

The undergraduate degree program was regarded as one of the independent variables that might affect the levels of teacher MA and PI of in-service instructors in the study. Table 4.6. illustrates ANOVA results on whether the undergraduate degree program types make a difference in the MA and PI of the participants.

Table 4.6 ANOVA Results for MA and PI by the Undergraduate Degree Program Types

Variables	Types of Undergraduate Degree Programs	*N*	*M*	*SD*	*F*	*p*
MA	English Language Teaching	133	4.23	.45834	.171	.953
	English Language and Literature	54	4.20	.42687		
	English Linguistics	9	4.29	.45856		
	Translation and Interpreting Studies	11	4.21	.57525		
	American Culture and Literature	9	4.14	.31069		
MAIT1	English Language Teaching	133	4.27	.53148	.185	.946
	English Language and Literature	54	4.25	.48746		
	English Linguistics	9	4.39	.48188		
	Translation and Interpreting Studies	11	4.24	.56029		
	American Culture and Literature	9	4.21	.28641		
MAIT2	English Language Teaching	133	4.08	.68306	.480	0.751
	English Language and Literature	54	4.05	.61911		
	English Linguistics	9	4.04	.56372		
	Translation and Interpreting Studies	11	3.87	1.00905		
	American Culture and Literature	9	3.82	.89132		
MAIT3	English Language Teaching	133	4.41	.53468	.213	.931
	English Language and Literature	54	4.46	.43910		
	English Linguistics	9	4.39	.71928		
	Translation and Interpreting Studies	11	4.54	.60019		
	American Culture and Literature	9	4.42	.54486		
MAIT4	English Language Teaching	133	4.12	.62944	1.094	.361
	English Language and Literature	54	3.97	.62869		
	English Linguistics	9	4.33	.57735		
	Translation and Interpreting Studies	11	4.24	.70065		
	American Culture and Literature	9	4.15	.47467		
PI	English Language Teaching	133	4.28	.44708	.857	.491
	English Language and Literature	54	4.29	.40982		
	English Linguistics	9	4.37	.67912		
	Translation and Interpreting Studies	11	4.49	.43017		
	American Culture and Literature	9	4.16	.40785		
PI1	English Language Teaching	133	4.25	.51707	.517	.723
	English Language and Literature	54	4.29	.50762		
	English Linguistics	9	4.27	.82462		
	Translation and Interpreting Studies	11	4.47	.40272		
	American Culture and Literature	9	4.22	.42947		
PI2	English Language Teaching	133	4.28	.51981	.104	.981
	English Language and Literature	54	4.32	.52185		
	English Linguistics	9	4.31	.42557		
	Translation and Interpreting Studies	11	4.24	.66223		
	American Culture and Literature	9	4.27	.48990		
PI3	English Language Teaching	133	4.19	.61575	.021	.999
	English Language and Literature	54	4.19	.55897		
	English Linguistics	9	4.22	.66667		
	Translation and Interpreting Studies	11	4.21	.61955		
	American Culture and Literature	9	4.15	.50308		

As illustrated in Table 4.6., the results of the ANOVA test revealed that the levels of both MA and PI, as well as their sub-dimensions, do not significantly differ based on the program completed.

4.1.2.5 Teaching Experience Variable

The teaching experience was considered one of the independent variables that can make a difference in the levels of teacher MA and PI of EFL instructors in the study. To explore if there is any difference between the groups in their perceived levels of MA and PI, an ANOVA test was conducted.

Table 4.7 ANOVA Results for MA and PI by the Years of Experience

Variables	Years of Experience	*N*	*M*	*SD*	*F*	*p*
	1-5 years	45	4.21	.44504		
	6-10 years	44	4.24	.38929		
MA	11-15 years	52	4.21	.45331	.939	.442
	16-20 years	32	4.11	.56888		
	21 years and more	43	4.31	.40207		
	1-5 years	45	4.22	.50977		
	6-10 years	44	4.32	.44000		
MAIT1	11-15 years	52	4.20	.48886	1.871	.117
	16-20 years	32	4.15	.61544		
	21 years and more	43	4.42	.49110		
	1-5 years	45	4.08	.70762		
	6-10 years	44	4.08	.59816		
MAIT2	11-15 years	52	4.11	.62037	1.588	.179
	16-20 years	32	3.77	.96133		
	21 years and more	43	4.11	.56120		
MAIT3	1-5 years	45	4.39	.50421		
	6-10 years	44	4.43	.50968		
	11-15 years	52	4.46	.53257	.281	.890
	16-20 years	32	4.37	.56796		
	21 years and more	43	4.48	.51581		
MAIT4	1-5 years	45	4.13	.60470		
	6-10 years	44	4.04	.64786		
	11-15 years	52	4.05	.60637	.453	.770
	16-20 years	32	4.21	.69173		
	21 years and more	43	4.10	.61522		
PI	1-5 years	45	4.31	.42005		
	6-10 years	44	4.35	.45928		
	11-15 years	52	4.20	.45632	1.562	.186
	16-20 years	32	4.20	.49245		
	21 years and more	43	4.39	.39757		
	1-5 years	45	4.24	.58403		
	6-10 years	44	4.34	.49477		
PI1	11-15 years	52	4.21	.53279	1.403	.234
	16-20 years	32	4.16	.52483		
	21 years and more	43	4.39	.43633		
PI2	1-5 years	45	4.34	.51279		
	6-10 years	44	4.35	.46628		
	11-15 years	52	4.24	.47417	1.669	.158
	16-20 years	32	4.10	.67966		
	21 years and more	43	4.36	.47521		
PI3	1-5 years	45	4.10	.58957		
	6-10 years	44	4.20	.53900		
	11-15 years	52	4.13	.69313	1.287	.276
	16-20 years	32	4.18	.59257		
	21 years and more	43	4.36	.51339		

As Table 4.7. illustrates, the results revealed that experience did not cause a significant difference between the groups in the general levels and the sub-dimensions of MA of EFL instructors.

4.1.2.6 Level of Education Variable

This study aimed to investigate the potential influence of educational background on MA and PI. Table 4.8. illustrates ANOVA results for MA and PI and the level of education of the EFL instructors.

Table 4.8. ANOVA Results for MA and PI by the Level of Education of the EFL Instructors

Variables	Level of Education	*N*	*M*	*SD*	*F*	*p*
	BA	71	4.19	.44561		
MA	MA	123	4.23	.44700	.322	.725
	PhD	22	4.27	.48224		
	BA	71	4.22	.51966		
MAIT1	MA	123	4.27	.49830	.985	.375
	PhD	22	4.40	.53541		
	BA	71	4.05	.64273		
MAIT2	MA	123	4.04	.70699	.031	.970
	PhD	22	4.08	.75507		
MAIT3	BA	71	4.42	.53581		
	MA	123	4.43	.52060	.153	.858
	PhD	22	4.49	.49085		
MAIT4	BA	71	4.04	.66411		
	MA	123	4.15	.58246	1.094	.337
	PhD	22	3.98	.73086		
PI	BA	71	4.25	.49595		
	MA	123	4.30	.42063	.642	.527
	PhD	22	4.36	.42435		
	BA	71	4.18	.60071		
PI1	MA	123	4.30	.48134	1.583	.208
	PhD	22	4.35	.41830		
PI2	BA	71	4.26	.49152		
	MA	123	4.29	.53675	.218	.805
	PhD	22	4.34	.52513		
PI3	BA	71	4.13	.60255		
	MA	123	4.21	.57955	1.096	.336
	PhD	22	4.33	.65060		

As illustrated in Table 4.8, the results of the ANOVA test demonstrated that both the general levels and the sub-dimensions of MA and PI do not significantly differ according to the variable of participants' education level.

4.1.2.7 The number of Seminars/ Conferences/ Workshops Attended by EFL Instructors Variable

The ANOVA test was done to detect statistically significant differences between the MA and PI of the EFL instructors and the number of seminars/ conferences/ workshops attended for professional development. Table 4.9. illustrates the results of whether the number of training courses made a difference in the MA and PI levels of the instructors.

Table 4.9 ANOVA Results for MA and PI by the Number of Training Courses Received for Professional Development

MA and PI Dimensions	Training courses received	*N*	*M*	*SD*	*F*	*p*	The origin of the difference
MA	None	3	4.17	.73711	4.053	.003	16 and above > 1-5 (p=.006)
	1-5	49	4.05	.45424			
	6-10	42	4.30	.43104			
	11-15	27	4.07	.40128			
	16 and above	95	4.32	.43032			
MAIT1	None	3	4.20	.75346	4.266	.002	16 and above > 1-5 (p=.002)
	1-5	49	4.07	.53583			
	6-10	42	4.32	.43757			
	11-15	27	4.11	.45644			
	16 and above	95	4.39	.49866			
MAIT2	None	3	4.07	.80829	2.881	.024	16 and above > 11-15 (p=.033)
	1-5	49	3.92	.66948			
	6-10	42	4.17	.59250			
	11-15	27	3.72	.87380			
	16 and above	95	4.15	.64870			
MAIT3	None	3	4.42	.52042	1.224	.302	--
	1-5	49	4.30	.50513			
	6-10	42	4.43	.55232			
	11-15	27	4.42	.54154			
	16 and above	95	4.50	.50594			
MAIT4	None	3	3.89	.96225	1.888	.114	--
	1-5	49	3.90	.61614			
	6-10	42	4.22	.60111			
	11-15	27	4.09	.55155			
	16 and above	95	4.15	.64101			
PI	None	3	4.38	.87368	1.873	.116	--
	1-5	49	4.17	.47635			
	6-10	42	4.28	.45173			
	11-15	27	4.24	.35574			
	16 and above	95	4.37	.42897			
PI1	None	3	4.47	.75719	1.352	.252	--
	1-5	49	4.16	.57876			
	6-10	42	4.27	.51290			
	11-15	27	4.18	.40734			
	16 and above	95	4.34	.50818			
PI2	None	3	4.27	.70238	2.504	.043	16 and above > 11- 15 (p=.018)
	1-5	49	4.15	.53427			
	6-10	42	4.33	.50300			
	11-15	27	4.12	.58246			
	16 and above	95	4.38	.47780			
PI3	None	3	4.00	.70238	2.731	.030	16 and above > 1-5 (p=.002)
	1-5	49	3.99	.53427			
	6-10	42	4.24	.50300			
	11-15	27	4.10	.58246			
	16 and above	95	4.31	.47780			

As illustrated in Table 4.9, the findings revealed a statistically significant difference in the general level of MA and the levels of MAIT1, and MAIT2, as well as the dimensions of PI, namely PI2 and PI3 according to the number of training courses taken by the participants.

The Tukey test was performed to determine which group the identified differences originate from. As a result, the Tukey, Scheffe, and LD tests were conducted.

It has been determined that the difference in the general level of MA originates from those who have taken between 1 and 5 courses and those who have taken 16 or more courses. When the averages are examined, it is seen that the average of the general level of MA for those who have taken 16 or more courses is higher than for those who have taken 1-5 courses.

The results revealed that the difference in the MAIT1 dimension originates from those who have taken between 1 and 5 courses and those who have taken 16 or more courses. When the averages are examined, it is seen that the average of the MAIT1 dimension for those who have taken 16 or more courses is higher than for those who have taken 1-5 courses.

The results demonstrated that the difference in the MAIT2 dimension originates from those who have taken between 11 and 15 courses and those who have taken 16 or more courses. When the averages are examined, it is seen that the average of the MAIT2 dimension for those who have taken 16 or more courses is higher than for those who have taken between 11 and 15 courses.

Based on the results of the Tukey, Scheffe, and LD tests, it can be stated that the difference in the PI2 dimension originates from those who have taken between 11 and 15 courses and those who have taken 16 or more courses. When the averages are examined, it is seen that the average of the PI2 dimension for those who have taken 16 or more courses is higher than for those who have taken between 11 and 15 courses.

The Tukey, Scheffe, and LD tests also revealed a statistically significant difference in the PI3 dimension. The difference originates from those who have taken between 1 and 5 courses and those who have taken 16 or more courses. When the averages are examined, it is seen that the average of the PI3 dimension for those who have taken 16 or more courses is higher than for those who have taken between 1 and 5 courses.

4.1.2.8 The Certificate Variable

The ANOVA test was done to detect statistically significant differences between the MA and PI of the EFL instructors and the certificates they received for professional development. Table 4.10 demonstrates ANOVA results for MA and PI by the certificates received for professional development.

Table 4.10 ANOVA Results for MA and PI by the Certificates Received for Professional Development

Variables	Certificates Received	*N*	*M*	*SD*	*F*	*p*
	CELTA	32	4.34	.41673		
	DELTA	17	4.24	.36395		
MA	TEFL	18	4.30	.44241	1.347	.254
	Other	129	4.20	.46233		
	None	20	4.07	.46011		
	CELTA	32	4.40	.45174		
	DELTA	17	4.39	.37208		
MAIT1	TEFL	18	4.47	.43419	2.821	**.026**
	Other	129	4.23	.52309		
	None	20	4.04	.56792		
	CELTA	32	4.26	.59120		
	DELTA	17	3.96	.72882		
MAIT2	TEFL	18	4.10	.83806	1.392	.238
	Other	129	4.03	.68593		
	None	20	3.83	.63998		
MAIT3	CELTA	32	4.54	.49640		
	DELTA	17	4.23	.58943		
	TEFL	18	4.35	.54327	1.140	.339
	Other	129	4.45	.50426		
	None	20	4.39	.57626		
MAIT4	CELTA	32	4.04	.52020		
	DELTA	17	4.33	.45644		
	TEFL	18	4.13	.66803	.773	.544
	Other	129	4.07	.67787		
	None	20	4.15	.51270		
PI	CELTA	32	4.33	.42476		
	DELTA	17	4.29	.50554		
	TEFL	18	4.32	.42646	.598	.664
	Other	129	4.30	.45331		
	None	20	4.15	.41573		
	CELTA	32	4.34	.48310		
	DELTA	17	4.32	.57035		
PI1	TEFL	18	4.32	.55366	1.297	.272
	Other	129	4.28	.52399		
	None	20	4.03	.45085		
PI2	CELTA	32	4.45	.53037		
	DELTA	17	4.36	.43148		
	TEFL	18	4.40	.51335	2.059	.087
	Other	129	4.25	.52187		
	None	20	4.08	.50011		
PI3	CELTA	32	4.31	.56122		
	DELTA	17	4.20	.51450		
	TEFL	18	4.33	.65679	1.059	.383
	Other	129	4.17	.60107		
	None	20	4.02	.60674		

Table 4.10 shows that the MAIT1 (Teaching Techniques) dimension significantly differs according to the certification variable of the participants. The findings of the LSD test indicated that the difference in the MAIT1 dimension is due to the difference between participants with no certification and those in the other groups (CELTA, DELTA, TEFL, other). The level of MAIT1 of participants with no certification is significantly lower than those in the other groups. However, it was not possible to statistically analyse which of

these courses led to the difference as these courses differ in length, delivery (online or face-to-face) admission requirements, and course content.

4.1.3 Results on the Relationship between MA and PI

The relationship between EFL teachers' MA and PI was analysed by the Pearson Correlation coefficient is illustrated in Table 4.11.

Table 4.11 Pearson Correlation Coefficient

Variables	MA Mean	PI Mean	MAIT1	MAIT2	MAIT3	MAIT4	PI1	PI2	PI3
MA	1								
PI	.650**	1							
MAIT1	.873**	.622**	1						
MAIT2	.813**	.472**	.529**	1					
MAIT3	.783**	.580**	.613**	.580**	1				
MAIT4	.526**	.249**	.355**	.261**	.238**	1			
PI1	.568**	.856**	.588**	.377**	.458**	.240**	1		
PI2	.888**	.630**	.834**	.751**	.697**	.287**	.555**	1	
PI3	.811**	.561**	.762**	.569**	.766**	.328**	.478**	.688**	1
M	4.22	4.30	4.27	4.05	4.43	4.10	4.27	4.28	4.19
SD	.45	.45	.51	.69	.52	.63	.52	.52	.59

** p<.01; N=216

According to Cohen (1988), the ranges for correlation values are as follows:

.10-.29 -------- Weak correlation

.30-.49 ------- Moderate correlation

.5 and above ----- Strong correlation

As demonstrated in Table 4.11, the findings of the Pearson Correlation analysis show that there is a high level of positively significant correlation (r=0.650>.50; p<.01) between the general average of the MA scale and the general average of the PI scale. The positive relationships between these two variables indicate that as EFL teachers' MA increases, the level of EFL teachers' PI increases, too.

The results revealed that the highest level of correlation between the general MA level and the dimension of PI is PI2 (r=.888; p<.01). Similarly, it can be observed that MAIT1 exhibits the highest level of correlation with the overall level of PI, indicating a significant relationship between the two variables (r=.622; p<.01).

4.1.4 Results on the Prediction of PI by MA

A simple linear regression was run to find whether EFL teachers' MA predicted their PI. The prediction of the PI variable by the general level of the MA variable was analysed using simple linear regression, as shown in Table 4.12.

Table 4.12 Simple Linear Regression Analysis on the Prediction of the PI Variable by the General Level of the MA variable

Variable	*B*	*Sh*	*β*	*t*	*p*
Fixed	1.496	.277	-	5.408	.000
PI	.657	.065	.568	10.089	.000

R= .568; R^2= .322; F= 101.782, p=.000

Dependent Variable: PI

As shown in Table 4.12, the EFL teachers' level of MA explains 0.32 of the total variances of the PI variable (R = .568, R2 = .322). Therefore, it can be stated that MA has a significant effect on the PI variable (p<.01). In other words, a one-unit increase in MA level contributes .32 to professional identity.

The findings of the multiple regression analysis regarding the prediction of the overall level of PI by the sub-dimensions of MA are presented in Table 4.13.

Table 4.13 Multiple Linear Regression Analysis of the Effect of MA Dimensions on PI

Variable	*B*	*Sh*	*β*	*t*	*p*
Fixed	1.838	.290		4.766	.000
MAIT1	.481	.076	.471	6.330	.000
MAIT2	.029	.053	.039	.553	.581
MAIT3	.139	.075	.140	1.857	.065
MAIT4	.024	.049	.029	.485	.628

R= .602; R^2= .363; Adj.R^2=.350; F= 29.997. p=.000
Dependent Variable: PI

As illustrated in Table 4.13, the linear combination of the independent variables MAIT1, MAIT2, MAIT3, and MAIT4 explains .35 of the total variances of the PI variable (Adj R^2= .350, p< .05). The relative effects of the predictor variables are evaluated with the β value. According to this, it can be stated that MAIT1 has the highest level of effect (β=.471), while MAIT4 has the lowest level of effect (β=.029). The findings regarding the significance of the regression coefficients indicate that only the variable MAIT1 has a significant effect on PI (p<.05) among the predictor variable.

4.2 Findings Related to Qualitative Data

To gain a more profound comprehension of the findings and to support the quantitative data, semi-structured interviews were carried out with in-service EFL instructors. In response to the questions, the participants shared their perspectives and identified various factors on the components of MA and PI.

During the semi-structured interviews, the instructors were asked to provide accounts of their (a) experiences with their current teaching practices by reflecting on their strong and weak points and considering their successful/effective or unsuccessful/ineffective lessons, (b) ideas about the contributing factors to their PI development, (c) perceptions of quality teaching and effective teachers. The use of open-ended questions in discussing the ideas about effective teaching allowed the participants to share their diverse experiences, representing their MA and PI.

The content analysis, as illustrated in Table 4.14, revealed several contextual factors likely to affect how EFL instructors perceived their MA and PI.

Table 4.14 Content Analysis of Instructors' Beliefs about their Strong and Weak Points

Theme	Category	Sub-Category
STRONG POINTS		
	Planning	Thinking about possible problems Having an extra plan Dealing with unexpected problems Material choice and adaptation
	Teaching Skills / Competency	Integrated lessons Student-centred lessons Interactive lessons (Question answer, pair or group work) Using a variety of methods and techniques Classroom Management Familiarity with the curriculum Using technology and interactive applications
	Familiarity with the student profile	Individual differences Personalizing the lesson Motivation Communication Making adaptations Supporting students
	Reflective practice	Taking and giving feedback
	Awareness of lifelong learning and professional development	Collaboration
	Theoretical knowledge	
	Loving one's job, being willing and enthusiastic	
WEAK POINTS	**Category**	**Sub-Category**
	Material development (Use of authentic material)	
	Time management	
	Personal traits	
	Subject matter expertise (e.g., Pronunciation, Speaking)	
	Theoretical Information	
	Reflective Practice	
	Learning different methods	

The first research question aimed to identify instructors' level of MA as individuals with high MA can identify their strengths and weaknesses (Flavell,1979; Georghiades,2004). Based on the provided themes and codes, the participants with high levels of MA had a deep understanding of effective teaching strategies. They were relatively aware of their metacognition in terms of regulation of cognition. They expressed that they tried to do student-centred teaching interactively and employ various techniques and methods to make students active and motivated. By using pair or group work, they allowed students to share their own experiences. In addition, they highlighted the importance of considering the needs of the students. Moreover, they explained how they employed

interactive technology to promote learning and create a more dynamic learning environment (Bell,2005). The following excerpts exemplified the instructors' views illustrating their MA of their teaching practices.

"I do not use any material as it is. I always tailor it to my needs…..It's about keeping up with the innovations" [T3].

"Looking at my learning objectives, I aim to make the lesson enjoyable and interesting" [T6].

"I try to use techniques that can involve students in the lecture. Students can give peer feedback to each other so they can learn from one another" [T11].

"I don't necessarily stick to the curriculum, to be honest" [T12].

Regarding lesson planning, almost all participants expressed confidence in their competence in this area.

"Before each class, I always go through a preparation process" [T7].

"Years of experience do not make a difference; even after years, I have never started a lesson unprepared. We need to go to the classroom confident and well-equipped" [T8].

"*I need to prepare before class. Even if I know the subject well, I need to determine what to cover and how much time to allocate for each activity"* [T11].

Further analysis of this component suggested that nearly all teachers *(N*=12*)* were aware of the significance of class dynamics or student profiles. So, if their plan did not work in a specific class, they always had a backup plan demonstrating their flexibility which accounts for their high metacognition. Also, instructors stated that they could adapt materials and lessons to meet the needs of individual students *(N*=10*)*. One of the instructors highlighted incidental teaching, which means that sometimes a teacher's plans and what students need may not match. In such a situation, a teacher needs to make on-the-spot decisions. See the extracts from the interviews below:

"We need to adjust the teaching approach according to the different levels. For instance, we more theoretical information on one level, while on another level, more production-oriented activities" [T1].

"Sometimes, I give individual assignments to my students to identify their weaknesses and then give them specific tasks accordingly" [T2].

"During class, there is incidental teaching, and if there is something that students need but is not in my immediate plan, I can easily leave my lesson plan and make an on-the-spot decision" [T9].

"To get to know my students better, I try to gather information through small surveys to understand their profiles, preferences, and needs" [T10].

Giving and taking feedback was another component of MA. Teachers can get feedback from their students on their teaching through surveys or classroom discussions. Teachers may use this information to identify areas that need improvement. By doing so, teachers can monitor and evaluate their teaching.

"I ask the students to write the things they understand and the things they don't understand" [T1].

"When I was a student, I benefited a lot from the feedback my teachers gave me, and I felt valued when they gave me such feedback" [T2].

"I always receive feedback from my students at the end of each semester" [T9].

Another component of metacognition, reflective practice was found to be another most frequent theme in the content analyses. Instructors often reflected on their performances by asking themselves questions such as: What was /was not good? What could I have done to make the lesson more effective?

"After every lesson, I always think about how it went, what went well, what didn't go well, and how I can improve that lesson. .....I talk to myself a lot. I really mean it, both internally and out loud when I'm alone in my room" [T9].

"I note down the good and weak points of my lesson" [T10].

The repeated codes suggested that instructors were aware of the effect of theoretical knowledge in their teaching practices. They expressed the gap between theory and practice as a possible problem in their teaching.

"Many articles guide me. What guides me the most is having a theory in mind" [T4].

"I do not feel enough in some areas. There is a theory behind practices. It is necessary to understand the theories behind them *thoroughly*" [T5].

"The classroom environment is different from theory. I always think about how to bridge that gap" [T6].

The analysis of the content indicated that almost all participants demonstrated a strong willingness towards their professional development. The codes revealed that instructors recognized the importance of lifelong learning and collaboration.

"There is a concept called life-long learning, which means one needs to know the importance of learning throughout their life" [T5].

"I received support from the personal development unit" [T7].

"Things are changing and developing over time. We need to keep up with them and keep our knowledge up to date. I have attended and followed many seminars" [T8].

"I take online courses; I also attend non-thesis master's programs" [T10].

"For my personal and professional development, I would like to pursue some teacher training programs so actually I would like my school to organize such programs at regular intervals" [T11].

Metacognition is critical because it allows teachers to regulate their cognitive skills, reflect on their practices, and identify weaknesses. As illustrated in the table, teachers were more aware of their strengths than weaknesses. However, even two teachers hesitated to answer the question about their weak points. This hesitation may be because of time constraints or workload, or lack of opportunities such as reflecting on their teaching, collaborating with colleagues, observing other instructors, and exchanging ideas and feedback. Due to the smaller number of codes and categories in their weak areas, instructors demonstrated a relatively lower mean value for this component (MAIT2), which was in line with quantitative data.

The participants emphasized the weakness of their personality traits which hinder their performance or relationship with the students. "T1" expressed her concerns about her time management skills very openly. She harshly criticized her negative trait, which illustrates her MA about her weak points. Also, she explained her effort to overcome this problem.

"I need to stop being a control freak and spoon-feeding, sometimes it is better to say: Here, take this and do it yourself" [T3].

"I am criticizing my excessive teacher talk time" [T4].

"Self-evaluation. Are we doing it? Actually, we're not. We should be doing it" [T5].

"I am sometimes too instructive with the students, telling them what to do and what not to do" [T7].

"I have difficulty with time management. ….I can make something simple more complex" [T10].

The participants shared their weak points in terms of technology use, material development, theoretical information, reflective practice, and being able to use different methods.

"I want to develop materials…. I also like to improve myself technologically" [T2].

"To address learners who learn with different methods, using different learning techniques" [T7].

"I need to benefit more from technological methods rather than traditional methods" [T12].

As this study suggested that MA significantly affects PI, teachers were asked to describe the factors leading to this result. In their answers to the second question, the participants expressed their ideas on the factors contributing to their high MA.

Table 4.15 illustrates the content analysis of the interviews related to instructors' beliefs about the contributions to their strengths and weaknesses.

Table 4.15 Findings on Instructors' Beliefs about the Contributions to their Strengths and Weaknesses

Theme	Category	Sub-Category
Contributions to their Strengths and Weaknesses		
	Institution	System Professional development unit In-service training Workshops, conferences Peer observation Pre and post conferences
	Participating in professional development activities Reflective practice Technology Reading theory Having a role model Making observations Collaborating with colleagues	Conferences, seminars, workshops

The results of the quantitative analysis demonstrated that the type of university instructors worked was found to have an impact on MA and PI. The quantitative results indicated that the general level of PI, the MAIT1 dimension of the MAIT variable, and the PI2 dimension of the PI of instructors working at foundation universities were higher than those working at state universities. This question in the interviews supported this result.

The institution's well-established system and policies were found to be influential factors in the identity of instructors.

"There is encouragement in the institution. We have special interest groups, an action research group, and an article club" [T2].

"There is a testing unit, curriculum unit, material development, and professional development unit. Everything is planned and definite…. I feel happy when appreciated in my institution" [T3].

"I received support from the professional development unit. We do peer observations very often. We write pre and post-observation reports. The professional development unit provides effective and encouraging support" [T7].

The participants considered various factors contributing to their MA and PI. Participating in professional development activities and reflective practice were positive factors for their high MA and PI.

"I read extensively, especially in my area of interest…... I participated in webinars, courses, and seminars to improve myself. After my DELTA experience, I now understand the core principles of why, how, and what to do. With the help of DELTA, I believe I have become a much more reflective teacher" [T8].

As also demonstrated in the direct quotations below, other common factors identified by instructors were following a role model, reading theory, and communicating and collaborating with colleagues.

"In high school, I was paying great attention to my teachers and collecting notes on their positive qualities……Of course, the theoretical classes I did throughout my undergraduate studies helped me. …… I attended several seminars after becoming a teacher" [T8].

"I believe that the influence of colleagues at work is significant. If you can communicate with the people and learn from and if you have good communication with them…".[T6].

The other component of the interviews was professional identity. The PI of the instructors was also in parallel with their strong points such as practical teaching skills (e.g. planning, learner-centred teaching), meeting the diverse needs of the students, having a good rapport with the students, and valuing professional development.

Table 4.16 Findings on Instructors' Beliefs about an Ideal EFL Instructor

Theme	Category
IDEAL TEACHER	Teaching Skills
	Good communication/collaboration skills
	Positive personality traits
	Professional Development

The instructors' responses describing an ideal effective EFL instructor revealed their identity beliefs. Ideal qualities were shared through these keywords: collaboration, peer groups, life-long learning, professional communities, evaluation, reflection, and academic research. These activities require MA and support PI's (re)construction as an active learner, teacher, and researcher.

"There is something called "life-long learning", so it is really important to learn throughout life" [T5].

"I believe that one should take part in peer groups and conduct observations……They can join organizations like INGED. They can also read academic journals or keep up with their favourite academics' most recent publications" [T10].

"An ideal teacher should also know how to make a lesson interesting and enjoyable. H/She should apply techniques to make the subject matter more interesting ……and also knows how to learn" [T11].

"An ideal teacher should consider individual differences among students" [T2].

"A teacher is a teacher who can easily reach the heart and minds of the students….Self-evaluation and being open to evaluation and feedback from colleagues, instructors, and department managers are important" [T3].

"To be able to empathize with the processes that students go through while learning a new language, an ideal teacher should also learn a language" [T9].

"One must be enthusiastic. They should love their job and be able to convey this passion through their expressions and tone of voice" [T9].

The instructors shared various skills and qualities that contribute to effective teaching. The most common ones were being patient, flexible, empathetic, solution-oriented, understanding, well-equipped, reliable, fair, and trustworthy. This list match with that of Brown's positive qualities for language teachers categorized into four sections: having

expertise in the target language, instructional abilities, social skills, and personal characteristics (2001).

In conclusion, semi-structured interviews suggested results supporting quantitative data and revealed significant findings regarding the MA and PI of EFL instructors.

4.3 Conclusion

In-depth analyses of the data gathered from the surveys and semi-structured interviews have been presented in this chapter. The discussion of these findings in light of the literature review, any implications that may follow from these findings, and a conclusion will all be covered in the following chapter.

5. DISCUSSION AND CONCLUSIONS

This chapter presents the study's findings and discusses them in relation to existing literature. Furthermore, this chapter will describe the contributions of this study to the EFL literature. Finally, pedagogical implications, as well as suggestions for further research based on the findings and limitations of the study, will be covered in this chapter.

5.1 Discussion on Quantitative and Qualitative Data

5.1.1 Discussion on MA Level of EFL Instructors

Data analyses addressed through MAIT revealed that the EFL instructors have a high level of MA. In the EFL context, this is consistent with the previous research results indicating that teaching performance is significantly linked to MA level ((Hiver & Whitehead, 2018; Jiang et al., 2016; Nahrkhalaji, 2014). In the Turkish EFL context, this result is in line with the results of the previous studies (Keçik, 2021; Öztürk, 2017; Üstünbaş & Alagözlü, 2021).

One of the reasons leading to the high-level awareness of the instructors may be the academic environment of the universities which leads to the incorporation of metacognition into in-service, mentoring, or certificate programs and help their lecturers improve their teaching skills (Steinert, 2010; Jafarzadeh, 2014). As previously mentioned, Prytula (2012) stated that professional learning communities have the potential to make a significant and long-lasting influence in an institution as a group of people works in collaboration with each other, exchange ideas and provide feedback to one another and exhibit some metacognition. Second, universities can encourage instructors to participate in workshops, conferences, seminars, and training programs or research activities such as making presentations at conferences or publishing academic articles (Lee, 2011).

Moreover, the high level of MA of EFL instructors may depend on the recruitment process (Kılıckaya, 2018). Instructors are expected to have a minimum score of 80 from a foreign language exam accepted by the Higher Education Council. Also, having a master's degree is compulsory. In addition to these requirements, the candidates are interviewed to show their professional knowledge and skills. That is, instructors who are likely to have high metacognition and are open to professional development are chosen.

The findings of this study do not coincide with the results of several studies carried out in Turkey with pre-service EFL teachers. It was found that pre-service teachers had a

moderate level of metacognition (e.g., Sarıçoban & Kırmızı, 2020). In addition, previous research findings in other countries do not align with this study (Jafarzadeh, 2014). These inconsistencies may be due to the cultural contexts, quality of teacher education, and professional opportunities provided to teachers in different countries (Borg, 2006). In addition, the data collection methods of the studies may lead to differences in the results of the studies.

The mean score obtained for the MAIT3 (Planning: Goals) subcategory was rather high. This ability which was defined as "*anticipatory planning*" (Hiver et al.,202, p. 489), suggested that the EFL instructors could anticipate and plan their instructional practices considering their goals, materials, students' needs, and potential challenges (Jiang et al., 2016; Scharff & Draeger, 2015; Öztürk, 2019). Teachers activate their mental processes before, during, and after lessons for practical instruction by making choices and planning (Duffy et al., 2009; Wilson & Bai, 2016).

The finding aligns with the quantitative data, which indicated that the majority of participants were feeling competent in lesson planning as an effective teaching practice. (Farrell, 2002; Jensen, 2001), which is consistent with MAIT3 component. The participant instructors' approach to teaching involves setting goals, creating an engaging learning environment, assessing student progress regularly, and adapting teaching strategies accordingly (Goe et al., 2008). The results of this study are consistent with previous research on the importance of effective teaching practices (Ghonsooly et al., 2014; Hartman, 2001; Toussi et al., 2011). Furthermore, Keçik (2021) found that EFL instructors with a high declarative knowledge are better equipped with the essential skills needed for effective teaching. Thus, this effectiveness is regarded as a result of high MA (Balçıkanlı, 2011; Lin et al.,2016).

The interviews also demonstrated that instructors were aware of the challenges in mixed-ability classes and could develop strategies to overcome them (Al-Shammakhi & Al-Humaidi, 2015). By utilizing adaptive instruction, instructors with high MA could predict unexpected situations and address the diverse needs of their students (Duffy, 2006; Fairbanks et al., 2010; Lin et al., 2005; Parsons et al., 2018). Furthermore, when faced with unanticipated problems or unique situations, instructors with high MA stated they could employ their skills to assess situations, solve problems, and develop methods (Duffy et al., 2009).

As regards to MAIT2 (Interaction between Monitoring & Evaluation) subcategory, the qualitative results illustrated a high average. Similarly, a study conducted with in-service EFL instructors working at the School of Foreign Languages at a university in Turkey found that they had high levels of awareness for the component of evaluation compared to pre-service teachers (Üstünbaş & Alagözlü, 2021). This monitoring and evaluation skill demonstrates that instructors frequently engage in reflection, evaluating the effectiveness of their teaching techniques and assessing their own performance. That is, participants were likely to question their skills which facilitate the connection and adaptation of their thoughts and behaviours to the demands of their ever-changing educational environment (Han, 2021; Hiver et al., 2021; Lin et al., 2005). This adaptability enables instructors to evaluate the outcomes of a lesson, analyse the effectiveness of the strategies they use and compare them with previous experiences and accordingly make the proper adjustments (Schraw & Moshman, 1995). In addition to self-assessment, the instructors emphasized the effect of getting feedback from the students to evaluate their instruction from the students' viewpoints.

A moderately low level in this subcategory compared to MAIT1, MAIT3, and MAIT4 may be explained by the nature of language classes which are dynamic and somewhat unexpected. As each lesson has its unique dynamics, teachers are expected to continually make interactive judgments that are appropriate for those dynamics (Richards & Lockhart, 1994). However, instructors at foreign language schools at universities teach a level such as elementary or intermediate, lasting an average of eight weeks or one semester; therefore, the constantly changing student profile may account for this result (Durmaz & Yiğitoğlu, 2017). Moreover, this result may depend on the possibility that instructors use a specific curriculum and resources.

On the other hand, the results of this current study contradict those of a study in the Turkish context at a foundation university, which found a low score in the evaluating subcategory (Keçik, 2021). The cultural context of the foundation university can impact instructors' attitudes towards evaluation and self-assessment. Factors such as institutional support, resources, and professional development opportunities can potentially influence evaluation practices of instructors. Furthermore, the participants in the study may have limited autonomy in decision-making due to working with a mandated curriculum and materials which could prevent their self-assessment.

5.1.2 Discussion on PI Level of EFL Instructors

The results of this study indicated that instructors had a high level of PI, which may be explained by a sense of commitment, collaboration, and ongoing professional development opportunities at universities. Previous studies conducted in the Turkish context have found similar results (Keskin & Zaimoğlu, 2021; Ölmez, 2016).

Regarding the sub-domains of the Teacher PI Scale, the school issues domain was the most significant component. This result is consistent with several studies (Durmaz & Yiğitoğlu, 2017; Flores & Day, 2006; Karimi & Mofidi; 2019; Kelchtermans, 2009). Teachers' commitment to their job, participation in the institution's culture, and identification with the organization's goals and values often demonstrate their dedication to the school. Further, school variables such as a motivating school environment, positive attitudes of the principals, a sense of community among school staff, and fair school decision-making procedures are essential for the teacher's sense of professional efficacy (Friedman & Kass, 2001). Finally, teachers who are dedicated to their institution can also benefit the teacher-student relationship by fostering a favourable learning environment and establishing a feeling of community in the classroom, which is an essential component of the PI (Beijaard et al., 2000).

Student needs domain was the second important aspect of PI with a slight difference from the domain of school needs. Previous research demonstrates that students' interests are the teachers' top priority (Sachs, 2005). Teaching is more complex than just a technical procedure that results in learning. It must also consider moral and ethical issues, such as how teachers communicate with their students and deal with their social, emotional, and moral development. Moreover, traditional teacher-centred teaching models are replaced by more student-centred ones (Beijaard et al., 2000). Therefore, teacher identity is regarded essential in decisions instructors make about their teaching techniques, the subject they teach, and the interactions they maintain with their students (Izadinia, 2013).

Regarding the sub-domain of professional growth and development, teachers had a high average. This result aligns with several studies (Keskin & Zaimoğlu, 2021; Mora et al., 2014; Yuan & Burns, 2017). Participating in professional development activities such as workshops, conferences, seminars, courses, action research, and engaging in collaborative learning may contribute to new ideas and approaches for instructors, transforming their professional identity (Steinert, 2010). For example, in a qualitative study with two EFL teachers in China, it was revealed that by engaging in action research

with university researchers, teachers learned how to analyse and reflect on their teaching practices and use the research results to construct their PI (Yuan & Burns, 2017).

Moreover, the professional atmosphere of the universities enables instructors to reflect on their teaching performances through peer observations, colleague conversations, or regular teamwork, which helps construct their identities as life-long learners (Graham & Phelps, 2002). Another crucial factor that may contribute to the PI is that they teach each class with a partner at prep classes in Turkey. This partnership can promote collaboration and cooperation and allow teachers to exchange ideas, resources, and lesson plans.

5.1.3 Discussion on Demographic Variables in EFL Instructors' Levels of MA and PI

Regarding demographic factors, the study revealed no significant differences by gender, age, years of experience, undergraduate degree program, or educational background. However, previous research indicates no unanimous agreement on the relationship between these variables and metacognition.

Studies examining the correlation between gender and metacognitive skills of EFL teachers have produced conflicting results. While some research has found gender significant (Bulut, 2018; Nahrkhalaji, 2014; Şendurur et al., 2011), other studies found no link (Çakıcı, 2018; Üstünbaş & Alagözlü, 2021). In the Turkish context, some studies in fields other than ELT with pre-service teachers align with this study's findings regarding gender (Koc & Kuvac, 2016). A study by Şendurur et al. (2011) found gender and educational background as influential variables. In a Greek context, the findings contrast with the results of Metallidou (2008) finding age and work experience as significant factors. These differences may depend on the variety of the participants with various teaching experience, educational background or other relevant factors.

Regarding the sub-dimensions, only the MAIT2 (Interaction between Monitoring and Evaluation) displays a remarkable difference in terms of gender. This result aligns with the results of several studies, illustrating that there were significant gender differences in EFL teachers' interests in professional development. Compared to male instructors, female teachers demonstrated greater interest in ongoing growth, self-confidence, and the need for development opportunities (e.g., Agcam & Babanoğlu, 2016; Babanoğlu & Yardımcı, 2017). This positive attitude of female instructors towards development may be linked to their ability to frequently monitor and evaluate their teaching practices, resulting in their tendency to improve their teaching effectiveness.

The results indicated that the age variable did not make a significant difference in the MA of teachers. This may be based on the idea that the instructors were considered to have reached a definite level of MA because of their educational background and teaching experience (Nahrkhalaji, 2014). However, it is experience, not time, that makes teachers professional (Hiver et al., 2021). Language teachers can find new ways or areas to metacognitively try out, modify, and develop their identities through their dynamic experiences (Yuan & Zhang,2020). Identity development is ongoing and educators constantly update and develop their metacognitions regarding identities in response to complex, shifting classroom and academic environments. Therefore, to define experts in the teaching profession, it is necessary to have a thorough understanding of other variables such as teachers' daily pedagogical experiences, including their thoughts, emotions, actions, efforts, and how they develop their professionalism or attempt to overcome challenges (Han, 2021).

In the Turkish EFL context, the results align with those of Üstünbaş and Alagözlü (2021) indicating no notable distinction among the groups concerning demographic variables like gender, educational background, or years of professional experience. However, the findings contradict with the study by Keçik (2021), which showed a considerable difference in the subdomains of MA by age. In addition, Çakıcı (2018) found that while gender did not significantly affect pre-service teachers' MA levels, years of experience had a significant and substantial impact.

In this study, experience was not found to be effective on the MA and PI of the instructors. The findings align with several studies (Bulut, 2018; Üstünbaş & Alagözlü, 2021). However, results contradict several studies (Beijaard et al.,2000; Çakıcı, 2018; Izadinia, 2013; Karimi & Mofidi; 2019). For example, a study by Keçik (2021) found a statistically significant difference in total monitoring scores among years of teaching experience. The results also contradict those of Nahrkhalaji (2014), who discovered a significant correlation between EFL teachers' MA and years of teaching experience, suggesting that MA increases as teachers gain more experience. In addition, in the study of Jiang et al., 2016, it was concluded that participants with more teaching experience exhibited higher metacognition levels than those with less teaching experience. The inconsistent results could be attributed to various factors since EFL/ESL classrooms are complex environments and effective teaching strategies can vary and be influenced by different contexts, societies, and institutional factors (Islam, 2017). Moreover, experience may not

have a straightforward relationship because some instructors may have many years of experience but cannot reflect on their thinking processes or be aware of their teaching practices. On the other hand, a teacher with less experience may have a higher level of MA or PI (Artzt & Armour-Thomas, 1998). Thus, this may be explained by the other variables of this study.

The findings of several studies on the relationship between age, level of education, gender, experience, and metacognition may have contradictory results for various reasons. Firstly, metacognition is a complex and multifaceted construct that makes it difficult to evaluate (Jiang et al., 2016). Secondly, it is challenging to observe metacognition directly as it includes several different elements (Lai, 2011; Pintrich et al., 2000). Additionally, the relationship between gender, educational background, experience, and metacognition may be impacted by cultural and contextual factors.

As for the findings of this study related to demographic factors, it was concluded that among all factors, the type of university instructors worked at, the number of professional development activities instructors participated and whether they had an English language teaching certificate led to differences.

Instructors working at foundation universities showed higher levels of PI in this study. Similarly, a study conducted by Babanoğlu and Yardımcı (2017) suggested that teachers working at private schools value professional development more than teachers in public schools. Taking charge of one's professional development, reflective teaching, using innovative ideas and practices, and attending seminars and conferences appear to be essential issues for teachers at private schools. This distinction may result from private schools' competitive and profit-driven culture, encouraging their instructors to use innovative teaching strategies. This result also explains the high level of MAIT1 for the instructors working at foundation universities. Another study in the Iranian context found that EFL teachers employed at private schools had higher levels of teaching proficiency than their counterparts in public schools (Rahimi & Nabilou, 2011). It was highlighted in this study that the quality of teaching was significantly higher in private schools since more skilled language instructors were employed.

The results revealed that the number of conferences, workshops, and seminars impacts MAIT1 (Teaching Techniques), which provides a better understanding and use of language teaching strategies (Richards & Farrell, 2005). As the number of professional

development events increased, the monitoring and evaluation of instructors (MAIT2) and personal growth and development domain (PI3) also increased. Teacher development activities provide instructors with the skills to examine and analyse teaching methods with a reflective approach (Borko, 2004; Richards & Farrell, 2005). The high number of activities also positively affects instructors' skills related to school issues (PI2 dimension). Therefore, professional development activities also benefit the institution (Richards & Farrell, 2005). However, the result of this study contradicts a study in the Turkish context in which EFL teachers' commitment to school issues was found to be the lowest. Teachers lacked a sense of belonging to their institutions, resulting in a lower commitment to school issues (Keskin & Zaimoğlu, 2021). This result could be attributed to the demanding working conditions, excessive requests from school administration, or not allowing teachers in decision-making processes.

In line with other studies in literature, the participation in various professional development programs and the institution's approach to professional development helped strengthen the identities of instructors (Durmaz & Yiğitoğlu, 2017; Mora et al., 2014; Yazan, 2018). Participating in professional learning communities described as "*an environment of collaboration and inquiry*" (Prytula, 2012, p.112) may contribute to MA and PI. In such communities, teachers can engage in higher-level thinking, leading to improved teaching strategies through reflective practice such as journal writing, lesson planning with colleagues, collaborative problem-solving and discussions. L2 teachers develop and shape their sense of self and PI by engaging as active members within communities of practice. As teacher candidates participate within communities of practice, their identity formation is shaped through their engagement with others in professional activities (Yazan, 2018).

In addition, the present study revealed that in-service teacher training programs were one of the most influential factors affecting PI development, which is supported by a quantitative study, finding that alternative certificates such as CELTA or TESOL affected the PI of the participant teachers (Durmaz & Yiğitoğlu, 2017). As a result, teachers may feel more confident, committed, satisfied, and competent if they believe they are constantly learning and improving, which can lead to a stronger sense of PI. In a qualitative study in the UK, it was found that in-service teacher education helps teachers gain awareness of and express their beliefs. Additionally, the education can strengthen

positive beliefs and promote the integration of beliefs with classroom practices (Borg, 2011).

5.1.4 Discussion on the Relationship between MA and PI of EFL Instructors

This study addressed the components of MA and how instructors perceived their MA to construct their PI and meet the needs of effective language teaching. Research has suggested that through metacognition, teachers can improve their PI (Artzt & Armour-Thomas, 1998; Mora et al., 2014). Several studies indirectly revealed the link between MA and PI; however, few studies found a direct link between these two components (Brown, 2009; Graham & Phelps, 2002; Han, 2021a, 2021b; 2022; Yuan & Zhang, 2020). In the Turkish context, very limited research exists on pre-service teachers (Cengelci & Egmir, 2021). It was concluded in these studies that MA affects professional identity, which is a continuous process that never ends. More metacognitively aware instructors tend to have a stronger sense of professional identity. For example, in the EFL context, the current study corresponds to the findings of a mixed-method study with thirty-seven Korean EFL teachers (Han, 2021a). It was concluded that teachers could develop and shape their identities through metacognitive thinking processes.

The quantitative data findings of this study demonstrated that instructors valued professional development. This result is in line with a study that revealed that spontaneous cooperation fosters PI and metacognitive thought processes (Han, 2021b). By working in collaboration and utilizing metacognitive skills such as monitoring and regulation, instructors could improve their PI. This finding also aligns with the study of Yuan and Zhang (2020) who suggested how crucial it is for teachers to use their metacognition by describing it as an "*engine*" navigating their complex identity work (p.891). Language teachers constantly (re)construct their identity through metacognition in response to the ever-changing and complex classroom and sociocultural environments regardless of age, experience, or teaching environment. Similarly, the current study supports one of the previous studies on the awareness of being a lifelong learner involving metacognitive knowledge, regulation and reflection (Graham & Phelps, 2002).

The results revealed that the highest level of correlation between the general MA level and the dimension of PI is PI2 (School Issues Domain). First, this is likely because of the structure of the Foreign Language Schools in Turkey. Instructors are limited to their classrooms and are members of an extensive system. The structure of language schools in Turkey requires the instructors to consult all relevant parties before making a decision.

Therefore, they need to consider the general policy statements of the schools they work in. For example, the curriculum in which all the elements, such as the content of the syllabus, objectives, materials, independent and autonomous learning opportunities assignments, and assessment, are prepared by policymakers (Durmaz & Yiğitoğlu, 2017; Flores & Day, 2006). Thus, instructors need to stay in close contact with all their school units, such as the curriculum, testing, or materials development unit, and collaborate with their partners or team friends. Second, the ability of instructors to engage in school issues, recognize and handle some problems or challenges and make constructive changes in collaboration with their colleagues depends on their metacognitive level (Han, 2021b; Hiver & Whitehead, 2018). Teachers produce intellectual, emotional, and practical responses representing their professional identities. They then use metacognition to monitor and control these reactions. In other words, during educational problem-solving procedures, teacher PI and MA can operate and develop together (Han, 2022). Through "*frequent dialogic meaning negotiations*," this interactive problem-solving can improve PI and related metacognitive thinking procedures (Han, 2021b, p.9).

The results of this study illustrated that the highest level of correlation between the general level of PI and the dimension of MAIT is MAIT1, which involves their knowledge and use of efficient teaching techniques in the classroom (Pennington & Richards, 2016; Richards, 2008). Teachers with strong PI are more devoted to employing effective teaching methods (Beijaard et al., 2004; Han, 2021a). Therefore, developing a PI dedicated to effective teaching strategies through reflective practice, collaboration with colleagues, and continual professional development is essential. In addition, this relationship can be explained by teachers' high levels of metacognition. That is, they know what, how, when, and why to teach a specific technique in their teaching (Bukor, 2013; Calderhead, 2006; Graham & Phelps, 2002; Hiver & Whitehead, 2018).

The ability to deal with complex situations is a predictor of MA and contributes to professional growth and identity formation (Beijaard et al., 2000). Teachers with a strong PI and metacognitive abilities can devise alternative plans when their initial strategies fail, promoting their continued development and growth as educators (Han, 2022).

The results of qualitative data illustrated that the instructors' ability to evaluate both their students and their teaching was another effective component of MA on PI. Through reflective practice, which also allows an insight into MA and PI, instructors can improve the effectiveness of their instruction (Balçıkanlı, 2010; Bukor, 2013; Calderhead, 2006;

Graham & Phelps; 2002; Hiver & Whitehead, 2018; Martin & Strom, 2016). It was revealed that instructors could continuously reflect, which occurs simultaneously with teaching and requires ongoing adjustments. It is described as "reflection-in-action." In addition, instructors could conduct "reflection-on-action,"; which occurs after teaching and is asynchronous (McAlpine et al., 1999).

The current study proposed that giving and taking feedback was one of the main factors that require MA and help improve PI. Based on the content analysis of interviews, it was suggested that instructors gathered student feedback to improve their students' learning and make improvements to future courses. Instructors recognized that such responses from students could provide critical and constructive information. This result aligns with several studies (Ellis, 2009; Graham & Phelps, 2002; Hattie & Timperley, 2007; Irawan & Salija, 2017). Moreover, instructors highlighted the significance of giving feedback on their students' performances (Cheng & Wang, 2007; Widiastuti, 2021). In addition, instructors mentioned the contribution of peer observations to the effectiveness of their instruction. Another way that instructors could reflect is through post-observation dialogues with the trainers or colleagues. In an exploratory case study, it was revealed how empowering, collaborative, and sustainable classroom observation can support professional growth and learning in a higher education context in Turkey (Acar et al.,2023).

The analysis of the interviews revealed that instructors were aware of the need to improve and update their theoretical knowledge based on the current developments in the field. Language teachers will only be seen as technicians if they lack a basic understanding of educational and applied theory. Therefore, teachers should be introduced to the strategies to address the metacognitive aspects of theoretical content in teacher education programs (Bayrak-Özmutlu, 2022).

In the interviews, instructors were asked to identify the factors that contributed to their effectiveness in teaching, and the most frequently cited factor was participation in professional development events. They highlighted their commitment to professional development. The quantitative data indicated that the type of university where instructors worked influenced their MA and PI, which was supported by their responses to the second research question. In the interviews, four instructors who expressed satisfaction with their institution's support worked at foundation universities. They expressed that they were provided with opportunities for professional development, such as in-service training,

peer observations, and pre-and post-conferences, during which they can exchange ideas, get feedback, work in collaboration, and reflect on their practices, including certificate programs such as CELTA and DELTA. Participating in these programs helps develop a stronger desire to pursue further qualifications and strengthen identity (Mora et al.,2014).

Teacher identity develops when they engage in different communities, interact with diverse individuals, and participate in social settings to evaluate and reflect on their teaching practices. The contribution of collaboration on MA and PI is highlighted in several studies (Beijaard, 2019; Crafton & Kaiser, 2011; Dikilitaş & Yaylı, 2018; Prytula & Weiman, 2012; Singh & Richards, 2006; Yazan, 2018). Research has suggested that the effective development of metacognition is likely to occur in a professional environment with peer interactions and support (Balçıkanlı, 2011; Hiver et al., 2021; Jiang et al., 2016; Kramarski & Michalsky, 2009; Prytula, 2012; Özturk, 2018; Zhang & Zhang, 2013). In addition, previous research has emphasized the active role of the teachers in their professional development, with a focus on self-observation, reflection, evaluation, cooperation, and action research, as well as constructive support from peers (Crafton & Kaiser, 2011; Dikilitaş & Yaylı, 2018; Dikilitaş & Sağlam, 2023; Durmaz & Yiğitoğlu, 2017; Özmutlu, 2022).

When instructors were asked to describe what constituted the identity of an ideal EFL instructor, they highlighted effective teaching skills. The interviews revealed that instructors valued skills such as lesson planning, providing engaging learning opportunities, monitoring student progress, evaluating learning, and adapting instruction when necessary. This result aligns with previous research highlighting the critical role of pedagogical skills in shaping instructors' professional identity (Martin & Strom, 2016). Previous research on the relationship between MA and PI is limited, but a related finding supports the findings of this study (Brown, 2009). The study revealed that planning, monitoring, and evaluation stages in teaching helped improve MA and PI. Research on the relationship between MA and PI states that every time instructors decide about their lessons and take action, they establish and develop an identity (Giles & Yazan, 2023).

In conclusion, the participants demonstrated MA about the idea of teacher identity. In other words, they exhibited a deep understanding of the term teacher identity and how it can (re)shape their decision making and daily practices.

5.2 Limitations of the Study

Three significant limitations need to be acknowledged and addressed regarding the present study. First, this study aimed to reach instructors from both state and foundation universities in Turkey. The variety of settings made it challenging to collect data. Thus, in terms of generalizing the research results, the study could be conducted in a limited setting. Second, the qualitative data analysis aimed to compare participants with low and high averages of MA and PI. However, this goal could not be achieved since a sufficient number of participants did not share their contact numbers. To determine which dimensions are most likely to impact effective teaching significantly, it would be better to contrast the instructors with lower and higher metacognition levels. Last of all, exploring the EFL instructor's MA level about their teaching through qualitative research methods, such as observation or reflection notes of instructors, would be very useful to support the present research results. Finally, it is challenging to evaluate metacognition for several reasons, including the intricacy of its inherent nature, its direct unobservability, and the limited scope of available measuring techniques (Lai, 2011).

5.3 Pedagogical Implications

This study revealed a strong relationship between the MA and PI of EFL instructors. Therefore, teacher trainers can design specific teacher training content by considering identity construction and related metacognitive thinking processes (Han, 2022). Based on the findings of this study, together with findings from previous studies, the following recommendations were proposed.

The study suggests incorporating metacognitive training and reflection into language teacher education programs to foster professional identity (Abednia, 2012; Adams & Mabusela, 2014; Fisher, 2018; Rosemary, 2006). For example, teachers or instructors can participate in discussion groups to evaluate their teaching practises and solve possible or future problems, which requires metacognitive thinking strategies. In this way, teachers can develop a stronger sense of professional identity by sharing their reflections on their lessons, evaluating their strengths and weaknesses, and setting goals for improvement, Also, in-service training as a component of professional development can be provided to instructors and teachers (Balbay et al., 2018; Durmaz & Yiğitoğlu, 2017; Önalan & Gürsoy, 2020; Özmutlu, 2021). Therefore, supporting EFL instructors in collaborative activities that promote exchanging ideas and feedback can help develop a positive

professional identity. Also, encouraging pre-service and in-service instructors and teachers to participate in peer learning programs can increase MA and the acquisition of communication and collaboration skills (Carvalho & Santos, 2022). For example, organizing mini-seminars or workshops regularly might motivate teachers or instructors to reflect on their teaching. In addition, educators or trainers can guide them to write journals and participate in dialogues with colleagues or trainers.

Through action research, teachers can self-reflect and develop their identities (Dikilitaş & Yaylı, 2018; Yuan & Burns, 2017). Therefore, enabling instructors to participate in research activities, take online courses, read research books, explore research journals, and attend conferences and workshops with a research focus can develop positive attitudes toward research.

To enhance MA and PI, EFL instructors and teachers should receive support for activities such as writing journals, participating in group discussions, peer observations, or mentoring partnerships (Bird & Hudson, 2015; Dos Santos, 2016; Shortland, 2010). In addition, instructors and teachers should engage in ongoing reflection to effectively address classroom situations, generate effective solutions to problems, and make necessary adjustments to improve their teaching performance (Cirocki & Farrell, 2017).

5.4 Suggestions for Further Studies

Based on the study's limitations and results, the following recommendations for further research can be suggested. First, this research demonstrated a statistically significant difference in the number of professional development activities EFL instructors participated in and the number of certificates they held. Therefore, further studies might focus on how ongoing professional development events such as in-service training programs or certificates contribute to MA. Second, it is suggested that future research use post-reflections, observation, or notes instead of follow-up interviews to examine participants' decision-making processes while teaching. Third, longitudinal studies can be conducted to observe EFL teachers' changes in their MA and professional identities over time, as teacher identity is considered multiple, flexible, dynamic, and multidimensional (Thomas & Beauchamp, 2009; Yazan, 2018). Last, the effect of MA on PI can be investigated with teachers from different contexts, such as primary or high school teachers teaching younger learners.

5.5 Conclusion

This study aimed to explore the MA and PI of in-service English language instructors, utilizing a mixed-method design. In addition, demographic and contextual factors that could affect the MA and PI of instructors were also examined. The findings indicated a significant relationship between these two variables. It was observed that EFL teachers with a high level of MA were able to effectively plan and deliver language lessons, creating a motivating learning environment for their students. Consequently, this awareness contributed to a stronger sense of professional identity.

The study's quantitative data was gathered from 216 EFL instructors working at the Schools of Foreign Languages in state and foundation universities in Turkey. Additionally, semi-structured interviews were conducted to support the quantitative data and explore factors associated with teachers' perceived levels of MA and PI.

Qualitative data analyses included descriptive statistics, Pearson Correlation tests, Independent Samples T-Test, and One-way ANOVA tests. In addition, simple and multiple linear regression analysis was used. The analyses revealed that instructors had a high level of MA and PI. Moreover, a statistically significant relationship was found between the MA and PI of the instructors. As for demographic factors of gender, age, the undergraduate degree program, experience, and educational background were found not to affect the difference for instructors. However, the type of university instructors work, the number of Professional development events they participated and whether they had a teaching certificate (CELTA or DELTA) led to differences. The findings also revealed that the institution where instructors worked was an influential factor. It is evident that the requirements, implementations, and regulations of the institutions significantly impacted their development of PI.

In addition, the content analysis of the interviews identified contextual factors that influenced the levels of MA and PI, including planning ability, teaching competency, familiarity with the student profile, reflective practice ability, awareness of lifelong learning, professional development, theoretical knowledge, and a positive and enthusiastic attitude towards teaching. Furthermore, the most frequently mentioned concepts contributing to PI were teaching and communication skills, opportunities to collaborate with colleagues and other professionals, participation in professional development events, and personality traits.

Based on these findings, this study proposed several implications that could contribute to improving language teacher education programs and teaching. One of these is to encourage professional development opportunities for both instructors and teachers, which can enhance their MA and ultimately lead to higher levels of PI and more effective language teaching. In addition, providing support for activities like journal writing, group discussions, peer observations, mentoring partnerships, and engaging in ongoing reflection can help improve the teaching performance of EFL instructors and teachers.

REFERENCES

Abednia, A. (2012). Teachers' professional identity: Contributions of a critical EFL teacher education course in Iran. *Teaching and Teacher Education*, 28(5), 706-717.

Acar S. P., Akgün Özpolat E., Çomoğlu İ. (2023). Teacher-tailored classroom observation for professional growth of EFL instructors: An exploratory case study. *Journal on Efficiency and Responsibility in Education and Science*, 16(1), 26-35.

Adams, J., & Mabusela, M. (2014). A metacognitive approach to teacher development: supporting national professional diploma in education (Npde) students. *Mediterranean Journal of Social Sciences*, 5(15), 289-296.

Agcam, R., & Babanoglu, M. P. (2016). An investigation on EFL teachers' attitude toward teaching profession. *Higher Education Studies*, 6(3), 21-31.

Ali, A. Z. F., & Razali, A. B. (2019). A review of studies on cognitive and metacognitive reading Strategies in teaching reading comprehension for ESL/EFL learners. *English Language Teaching*, 12(6), 94-111.

Al-Shammakhi, F., & Al-Humaidi, S. (2015). Challenges facing EFL teachers in mixed ability classes and strategies used to overcome them. *World Journal of English Language*, 5(3), 33-45.

Altan, S., Lane, J. F., & Dottin, E. (2019). Using habits of mind, intelligent behaviours, and educational theories to create a conceptual framework for developing effective teaching dispositions. *Journal of Teacher Education*, 70(2), 169–183.

Anderson, N. J. (2012). Metacognition: Awareness of language learning. In S. Mercer, S. Ryan, & M. Williams (Eds.), *Psychology for language learning: Insights from research, theory and practice* (pp. 169e187). New York: Palgrave Macmillan.

Artzt, A.F., Armour-Thomas, E. (1998). Mathematics teaching as problem solving: A framework for studying teacher metacognition underlying instructional practice in mathematics. *Instructional Science*, (26), 5–25.

Babanoğlu, M. P., & Yardımcı, A. (2017). Turkish state and private school EFL teachers' perceptions on professional development. *Çukurova University Faculty of Education Journal*, 46(2), 789-803.

Balbay, S., Pamuk, I., Temir, T., & Doğan, C. (2018). Issues in pre-service and in-service teacher-training programs for university English instructors in Turkey. *Journal of Language and Linguistic Studies*, 14(2), 48-60.

Balcikanli, 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, Ankara].

Balçıkanlı, C. (2011). Metacognitive awareness inventory for teachers (MAIT). *Electronic Journal of Research in Educational Psychology*, 9(25), 1309-1332.

Bars, M., & Oral, M. (2017). The relationship among metacognitive awareness, self-efficacy toward the teaching profession and the problem-solving skills of teacher candidates. *Eurasian Journal of Educational Research*, 72, 107-127.

Bayrak-Özmutlu, E. (2022). The relationship between theory and practice: an examination based on pre-service teachers' beliefs. *Journal of Qualitative Research in Education*, 30, 223-249.

Beijaard, D., Meijer, P. C., & Verloop, N. (2004). Reconsidering research on teachers' professional identity. *Teaching and Teacher Education*, 20(2), 107–128.

Beijaard, D., Verloop, N., & Vermunt, J.D. (2000). Teachers' perceptions of professional identity: An exploratory study from a personal knowledge perspective. *Teaching and Teacher Education*, 16, 749–764.

Bell, T. R. (2005). Behaviours and attitudes of effective foreign language teachers: Results of a questionnaire study. *Foreign Language Annals*, 38(2), 259-270.

Bird, L., & Hudson, P. (2015). Investigating a model of mentoring for effective teaching. *Journal of Teaching Effectiveness and Student Achievement*, 2(2), 11-21.

Borg, S. (2006). The distinctive characteristics of foreign language teachers. *Language teaching research,* 10(1), 3-31.

Borg, S. (2011). The impact of in-service teacher education on language teachers' beliefs. *System*, 39(3), 370-380.

Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational researcher*, 33(8), 3-15.

Bozorgian, H. (2014). The role of metacognition in the development of EFL learners' listening skill. *International Journal of Listening*, 28(3), 149–161.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.

Brown, A. (2009, June-July). *Teacher interns, metacognition, and identity formation* [Paper presentation]. Australian Teacher Education Association (ATEA) Conference 2009, Albury.

Bulut, I. (2018). The levels of classroom and pre-school teachers' metacognitive awareness. *Universal Journal of Educational Research*, 6(12), 2697-2706.

Calderhead, J. (2006). Reflective teaching and teacher education. Reflective teaching and teacher education. *Teaching and teacher education*, 5(1), 43-51.

Carvalho, A. R., & Santos, C. (2022). Developing peer mentors' collaborative and metacognitive skills with a technology-enhanced peer learning program. *Computers and Education Open,* 3, 100070.

Cheung, H. Y. (2008). Measuring the professional identity of Hong Kong in-service teachers. *Journal of In-Service Education*, 34(3), 375–390.

Cheng, L. & Wang, X. (2007) Grading, feedback, and reporting in ESL/EFL classrooms, *Language Assessment Quarterly*, 4(1), 85-107.

Cirocki, A., & Farrell, T. S. (2017). Reflective practice for professional development of TESOL practitioners. *The European Journal of Applied Linguistics and TEFL*, 6(2), 5-23.

Crafton, L., & Kaiser, E. (2011). The language of collaboration: Dialogue and identity in teacher professional development. *Improving schools*, 14(2), 104-116.

Çakıcı, D. (2018). Metacognitive awareness and critical thinking abilities of pre-service EFL teachers. *Journal of Education and Learning*, 7(5), 116-129

Cengelci, S., & Egmir, E. (2022). The effect of 21st century learner skills and metacognitive awareness on early teacher identity. *Shanlax International Journal of Education*, 10 (1), 270–83.

Danielewicz, J. (2001). *Teaching Selves: Identity, Pedagogy, and Teacher Education*. State University of New York Press.

Dikilitas, K., & Sağlam, A. L. G. (2023). Exploring the practical impacts of research engagement on English language teaching: Insights from an online community of practice. *Journal on Efficiency and Responsibility in Education and Science*, 16(1), 46-54.

Dikilitaş, K. & Yaylı, D. (2018). Teachers' professional identity development through action research, *ELT Journal*, 72(4), 415–424.

Doğanay, A., & Demir, Ö. (2011). Comparison of the level of using metacognitive strategies during study between high achieving and low achieving prospective teachers. *Educational Sciences: Theory and Practice*, 11(4), 2036–2043.

Dos Santos, L. M. (2016). Foreign language teachers' professional development through peer observation programme. *English Language Teaching*, 9(10), 39-46.

Duffy, G. G. (2006). Developing metacognitive teachers: Visioning and the expert's changing role in teacher education and professional development. In S.E.Israel, C.C. Block, K.L. Bauserman, K.Welsch (Eds.), *Metacognition in literacy learning: Theory, assessment, instruction, and professional development* (pp. 299-314). New York: Routledge.

Duffy, G. G., S. Miller, S. Parsons, and M. Meloth (2009). Teachers as metacognitive professionals. In D. J. Hacker, J. Dunlosky, & A. C. Graesser (Eds.), *Handbook of Metacognition in Education* (pp. 240–256). New York: Routledge.

Durmaz, M., & Yiğitoğlu, N. (2017). Factors in the professional identity development of alternatively certified English language teachers (ACELTs). *International Online Journal of Education and Teaching (IOJET),* 4(4), 398-416.

Ellis, R. (2009). Corrective feedback and teacher development. *L2 Journal*, 1(1), 3-18.

Fairbanks, C. M., Duffy, G. G., Faircloth, B. S., He, Y., Levin, B. C., Rohr, J., & Stein, C. M. (2009). Beyond knowledge: exploring why some teachers are more thoughtfully adaptive than others. *Journal of Teacher Education*, 61(1–2), 161–171.

Farahian, M., & Avarzamani, F. (2018). Metacognitive awareness of skilled and less-skilled EFL writers. *Asian-Pacific Journal of Second and Foreign Language Education*, 3(1), 1-17.

Farrell, T. S. (2002). Lesson planning. Methodology in language teaching: *An anthology of current practice*, 11(2), 30-39.

Farrell, T. S. (2011). Exploring the professional role identities of experienced ESL teachers through reflective practice. *System*, 39(1), 54-62.

Fisher, L. (2018). Emotion recollected in tranquillity": Blogging for metacognition in language teacher education. In, Å. Haukås, C. Bjørke & M. Dypedahl (Eds.), *Metacognition in Language Learning and Teaching* (pp. 224-242). New York: Routledge.

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive–developmental inquiry. *American Psychologist*, 34(10), 906–911. https://doi.org/10.1037/0003-066x.34.10.906

Flores, M. A., & Day, C. (2006). Contexts which shape and reshape new teachers' identities: A multiperspective study. *Teaching and Teacher Education*, (22), 219–232.

Fox, E. B., & Riconscente, M. (2008). Metacognition and Self-Regulation in James, Piaget, and Vygotsky. *Educational Psychology Review*, 20(4), 373–389. https://doi.org/10.1007/s10648-008-9079-2

Friedman, I. A., & Kass, E. (2001). Teacher efficacy: The task-relations model. *Megamot*, 41(3), 322–348.

Georghiades, P. (2004). From the general to the situated: three decades of metacognition. *International Journal of Science Education*, 26(3), 365–383. https://doi.org/10.1080/0950069032000119401

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.

Giles A., Yazan B. (2023) Constructing teacher identity in teacher collaboration: What does it mean to be a teacher of culturally and linguistically diverse English learners? *Journal on Efficiency and Responsibility in Education and Science*, 16(1), 36-45.

Goe, L., Bell, C., & Little, O. (2008). Approaches to evaluating teacher effectiveness: A research synthesis. Washington, DC: National Comprehensive Centre for Teacher Quality. Retrieved from https://eric.ed.gov/?id=ED521228

Graham, A., & Phelps, R. (2002). Being a teacher: Developing teacher identity and enhancing practice through metacognitive and reflective learning processes. *Australian Journal of Teacher Education*, 27(2), 11-24.

Griffith, P., & Ruan, J. (2006). What is metacognition and what should be its role in literacy instruction? In S. E. Israel, C.C. Block, K. L. Bauserman, K. Welsch (Eds.),

Metacognition in literacy learning: Theory, assessment, instruction, and professional development (1st ed., pp. 1-16). New York: Routledge.

Han, I. (2016). (Re)conceptualisation of ELT professionals: academic high school English teachers' professional identity in Korea. *Teachers and Teaching*, 22(5), 586–609.

Han, I. (2017) Conceptualization of English teachers' professional identity and comprehension of its dynamics, *Teachers and Teaching*, 23:5, 549-569.

Han, I. (2021a) Comprehension of experienced English language teachers' Professional identity and related metacognitive thinking procedures, *Teachers and Teaching*, 27(1-4), 223-245, DOI: 10.1080/13540602.2021.1939002

Han, I. (2021b). Development of professional identity and related metacognitive thinking procedures of English language teachers through spontaneous collaboration for pedagogical problem-solving. *SAGE Open*, 11(2), 1-13.

Han, I. (2022). Comprehension of the co-Operation of professional identity and metacognition of English teachers in pedagogical problem solving. *Behavioral Sciences*, 12(2), 32.

Hartman, H. J. (2001). Teaching metacognitively. In H. J. Hartman. (Ed), *Metacognition in learning and instruction: Theory, Research and Practice* (pp.149-169). The Netherlands: Kluwer Academic Publishers.

Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of educational research*, 77(1), 81-112.

Haukås, A. (2018). Metacognition in language learning: An overview. In, Å. Haukås, C. Bjørke & M. Dypedahl (Eds.), *Metacognition in Language Learning and Teaching* (pp.11-30). New York: Routledge.

Hennessey, M. G. (1999). *Probing the dimensions of metacognition: Implications for conceptual change teaching-learning.* [Paper presentation]. National Association for Research in Science Teaching 1999, Boston.

Hiver, P., Solarte, A. C. S., Whiteside, Z., Kim, C. J., & Whitehead, G. F. S. (2021). The role of language teacher metacognition and executive function in exemplary classroom practice. *The Modern Language Journal*, 105(2), 484–506.

Hiver, P., & Whitehead, E.K., (2018). Teaching metacognitively: Adaptive inside-out thinking in the L2 classroom. In A. Haukås, C. Bjørke & M. Dypedahl (Eds.), *Metacognition in Language Learning and Teaching* (pp.243-262). New York: Routledge.

Hiver, P., Whiteside, Z., Solarte, A. C. S., & Kim, C. J. (2019). Language teacher metacognition: beyond the mirror. *Innovation in Language Learning and Teaching*, 15(1), 52–65.

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

Irawan, E., & Salija, K. (2017). Teachers' oral feedback in EFL classroom interaction (A Descriptive Study of Senior High School in Indonesia). *ELT Worldwide*, 4(2), 138-152.

Islam, R. (2017). Investigating factors that contribute to effective teaching-learning practices: EFL/ESL classroom context. *English Language Teaching*, 10(4), 15-21.

Ivankova, N. V., Creswell, J. W., & Stick, S. L. (2006). *Using mixed-methods sequential explanatory design: From theory to practice.* Field methods, 18(1), 3-20.

Izadinia, M. (2013). A review of research on student teachers' professional identity. *British Educational Research Journal*, 39(4), 694-713.

Jacobs, J. E., & Paris, S. G. (1987). Children's metacognition about reading: Issues in definition, measurement, and instruction. *Educational Psychologist*, 22(3-4), 255–278.

Jafarzadeh, L. (2016). Teacher metacognition: An investigation into Iranian EFL teachers. *ANGLISTICUM. Journal of the Association-Institute for English Language and American Studies*, 3(4), 129-137.

Jensen, L. (2001). Planning lessons. *Teaching English as a Second or Foreign Language*. Boston, MA: Heinle & Heinly.

Jiang, Y., Ma, L., & Gao, L. (2016). Assessing teachers' metacognition in teaching: The Teacher Metacognition Inventory. *Teaching and Teacher Education*, 59, 403-413.

Kallio, H., Virta, K., Kallio, M. 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.

Karimi, M. N., & Mofidi, M. (2019). L2 teacher identity development: An activity theoretic perspective. *System,* 81, 122-134.

Karimi, M. T., & Ziaabadi, F. (2019). Teachers' motivation to teach, teacher credibility, metacognitive awareness, and students' motivation and affective learning: A structural equation modeling analysis. *Teaching English Language*, 13(1), 147–176.

Keçik, İ. (2021). *Exploring the Metacogntive Awareness Level of EFL Instructors*. [Unpublished Master's Thesis, Başkent University Institute of Educational Sciences, Ankara, Turkey].

Kelchtermans, G. (2009). Who I am in how I teach is the message: self-understanding, vulnerability and reflection. *Teachers and Teaching: Theory and Practice*, 15(2), 257-272.

Keskin, A., & Zaimoğlu, S. (2021). An investigation of Turkish EFL teachers' perceptions of professional identity. *Çağ University Journal of Social Sciences*, 18(1), 82-95.

Kılıckaya, F. (2018). Recruitment of English language instructors at the schools of foreign languages in Turkey: Issues and challenges. *Balıkesir University Journal of Social Sciences,* 21(40), 159-182.

Kiger, M. E., & Varpio, L. (2020). Thematic analysis of qualitative data: AMEE Guide No. 131. *Medical Teacher*, 42(8), 846–854. https://doi.org/10.1080/0142159x.2020.1755030

Kline, P. (2014). *An easy guide to factor analysis.* Routledge.

Koc, I., & Kuvac, M. (2016). Preservice science teachers' metacognitive awareness levels. *European Journal of Education Studies*, 2(3), 43–63.

Kramarski, B., & Michalsky, T. (2009). Investigating pre-service teachers' professional growth in self-regulated learning environments. *Journal of Educational Psychology*, 101(1), 161-175.

Lai, E. R. (2011). Metacognition: A literature review. Always learning: *Pearson research report*, (24), 1-40.

Lee, I. (2011). Teachers as presenters at continuing professional development seminars in the English-as a-foreign-language context: I find it more convincing. *Australian Journal of Teacher Education*, 36(2), 30-42.

Lin, X., Schwartz, D. K., & Hatano, G. (2005). Toward teachers' adaptive metacognition. *Educational Psychologist*, 40(4), 245–255.

Livingston, J. A. (2003). *Metacognition: An Overview*. Psychology, 13, 259-266

Marin, M. A., & De La Pava, L. V. (2017). Conceptions of critical thinking from university EFL teachers. *English Language Teaching*, 10(7), 78. https://doi.org/10.5539/elt.v10n7p78

Martin, A. D., & Strom, K. J. (2016). Toward a linguistically responsive teacher identity: An empirical review of the literature. *International Multilingual Research Journal*, 10(4), 239-253.

McAlpine, L., Weston, C., Beauchamp, J., Wiseman, C., & Beauchamp, C. (1999). Building a metacognitive model of reflection. *Higher education*, 105-131.

Metallidou, P. (2009). Pre-service and in-service teachers' metacognitive knowledge about problem-solving strategies. *Teaching and Teacher Education*, 25(1), 76-82.

Mitsea, E., & Drigas, A. (2019). A Journey into the metacognitive learning strategies. *International Journal of Online and Biomedical Engineering*, 15(14), 4. https://doi.org/10.3991/ijoe.v15i14.11379

Mora, A., Trejo, P., & Roux, R. (2014). English language teachers' professional development and identities. *Profile Issues in Teachers Professional Development*, 16 (1), 49-62.

Motallebzadeh, K., & Kazemi, B. (2018). The relationship between EFL teachers' professional identity and their self-esteem. *Cogent Education*, 5(1), 1443374. https://doi.org/10.1080/2331186x.2018.1443374

Nahrkhalaji, S. S. (2014). EFL teachers' metacognitive awareness as a predictor of their professional success. *International Journal of Cognitive and Language Sciences*, 8(6), 1665-1669.

Ohtani, K., & Hisasaka, T. (2018). Beyond intelligence: a meta-analytic review of the relationship among metacognition, intelligence, and academic performance. *Metacognition and Learning*, 13(2), 179–212. https://doi.org/10.1007/s11409-018-9183-8.

Ölmez, F. (2016). An insight into professional identities of Turkish EFL instructors. International *Journal of Social Sciences and Education Research*. 2(4), 1226-1235. https://doi.org/10.24289/ijsser.278998

Önalan, O., & Gürsoy, E. (2020). EFL teachers' views and needs on in-service training as a part of professional development: A case study in Turkish context. *Bartın University Journal of Faculty of Education*, 9(2), 373-387

Öz, H. (2005). Metacognition in foreign/second language learning and teaching. *Hacettepe University Journal of Education*, 29(29), 147–156.

Öz, H. (2016). Metacognitive awareness and academic motivation: A cross-sectional study in teacher education context of Turkey. *Procedia - Social and Behavioral Sciences*, 232, 109–121. https://doi.org/10.1016/j.sbspro.2016.10.035

Özmutlu, E. B. (2022). Views of pre-service teachers on the research-based teacher education approach. *Tuning Journal for Higher Education*, 10(1), 113-153.

Öztürk, A., & Özyurt, M. (2020). The function of metacognition in instructional skills: A comparative case study. *International Online Journal of Education and Teaching (IOJET),* 7(3). 1143-1166. https://iojet.org/index.php/IOJET/article/view/843

Öztürk, N. (2017) An analysis of teachers' self-reported competencies for teaching metacognition, *Educational Studies*, 43(3), 247-264, DOI: https://doi.org/10.1080/03055698.2016.1273761

Öztürk, N. (2019). Metacognition in a foreign language reading context. *Journal of Language Education and Research*, 5(2), 192-212.

Paris, S. G., & Winograd, P. (1990). *How metacognition can promote academic learning and instruction.* In B. F. Jones & L. Idol (Eds.), Dimensions of thinking and cognitive instruction (pp. 15-51). Hilldale, HJ: Lawrence Erlbaum Associates

Parsons, S. A., Vaughn, M., Scales, R. Q., Gallagher, M. A., Parsons, A. W., Davis, S. D., Pierczynski, M., & Allen, M. H. (2017). Teachers' instructional adaptations: A research synthesis. *Review of Educational Research*, 88(2), 205–242. doi: 10.3102/0034654317743198

Pennington, M. C., & Richards, J. C. (2016). Teacher identity in language teaching: Integrating personal, contextual, and professional Factors. *RELC Journal*, 47(1), 5–23. doi:10.1177/0033688216631219

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

Pintrich, P. R., Wolters, C. A., & Baxter, G. P. (2000). Assessing metacognition and self-regulated learning. In G. Schraw & J. C. Impara (Eds.), *Issues in the measurement of metacognition* (pp. 43–97). Lincoln, NE: Buros Institute of Mental Measurements.

Prytula, M. P. (2012). Teacher metacognition within the professional learning community. *International Education Studies*, 5(4), 112-121.

Prytula, M., & Weiman, K. (2012). Collaborative professional development: An examination of changes in teacher identity through the professional learning community model. *Journal of Case Studies in Education*, 3, 1-19.

Rahman, A. A., Angraeni, A., & Fauzi, R. A. (2021). The activation of learners' metacognition to promote learning autonomy of good language learners. *Pegem Journal of Education and Instruction*, 11(4), 249-253.

Rahimi, M., & Nabilou, Z. (2011). Iranian EFL teachers' effectiveness of instructional behaviour in public and private high schools. *Asia Pacific Education Review*, 12, 67-78.

Richards, J. C. (2008). Second language teacher education Today. *RELC Journal*, 39(2), 158–177. https://doi.org/10.1177/0033688208092182.

Richards, J. C., & Farrell, T. S. (2005). *Professional development for language teachers: Strategies for teacher learning*. Cambridge University Press.

Richards, J. C., & Lockhart, C. (1994). *Reflective teaching in second language classrooms*. Cambridge University Press.

Rosemary, C. A. (2006). Teacher learning instrument: A metacognitive tool for improving literacy teaching. In S. E. Israel, C. C. Block, K. L. Bauserman, K. Welsch (Eds.), *Metacognition in literacy learning: Theory, assessment, instruction, and professional development* (pp. 351-372). New York: Routledge.

Saavedra, A. R., & Opfer, V. D. (2012). Learning 21st-century skills requires 21st-century teaching. *Phi Delta Kappan*, 94(2), 8–13. https://doi.org/10.1177/003172171209400203

Sachs, J. (2001) Teacher professional identity: competing discourses, competing outcomes, *Journal of Education Policy*, 16(2), 149-161. Doi: 10.1080/02680930116819

Sachs, J. (2005). Teacher education and the development of professional identity: Learning to be a teacher1. *In Connecting policy and practice* (pp. 5-21). Routledge.

Salari, M., & Farahian, M. (2022). EFL teachers' self-efficacy and professional development: the mediating effect of metacognitive awareness. *Journal of Applied Research in Higher Education*. https://doi.org/10.1108/jarhe-03-2022-0098

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*, 7(3), 1032–1052.

Scharff, L., & Draeger, J. (2015). Thinking about metacognitive instruction. *The National Teaching & Learning Forum*, 24(5), 4–6. https://doi.org/10.1002/ntlf.30035

Scharff, L., Draeger, J., Robinson, S., Pedro, L. W., & Peak, C. (2021). Developing metacognitive instructors through a guided journal. *Teaching & Learning Inquiry*, 9(2).

Schraw, G. (1998). Promoting general metacognitive awareness. *Instructional Science*, 26(1-2), 113-125.

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

Schraw, G., & Moshman, D. (1995). Metacognitive theories. *Educational Psychology Review*, 7(4), 351-373.

Schunk, D. H. (2008). Metacognition, self-regulation, and self-regulated learning: Research recommendations. *Educational Psychology Review*, 20(4), 463–467. https://doi.org/10.1007/s10648-008-9086-3

Scott, B. M., & Levy, M. G. (2013). Metacognition: Examining the components of a fuzzy concept. *Educational Research eJournal*, 2(2), 120-131.

Şendurur, E., Şendurur, P., Mutlu, N., & Baser, V. G. (2011). Metacognitive awareness of pre-service teachers. *International Journal on New Trends in Education and Their Implications*, 2(4), 102-107.

Sheybani, M., & Miri, F. (2019). The relationship between EFL teachers' professional identity and their critical thinking: A structural equation modelling approach. *Cogent Psychology,* 6(1). https://doi.org/10.1080/23311908.2019.1592796

Shortland, S. (2010). Feedback within peer observation: continuing professional development and unexpected consequences. *Innovations in Education and Teaching International*, 47(3), 295–304. doi:10.1080/14703297.2010.498181

Soodla, P., Jõgi, A., & Kikas, E. (2016). Relationships between teachers' metacognitive knowledge and students' metacognitive knowledge and reading achievement. *European Journal of Psychology of Education*, 32(2), 201–218.

Steinert, Y. (2010). Faculty development: from workshops to communities of practice. *Medical teacher*, 32(5), 425-428.

Teng, F. (2019). The role of metacognitive knowledge and regulation in mediating university EFL learners' writing performance. *Innovation in Language Learning and Teaching*, 14(5), 436–450. https://doi.org/10.1080/17501229.2019.1615493

Teo, P. M. (2019). Teaching for the 21st century: A case for dialogic pedagogy. *Learning, Culture and Social Interaction*, 21, 170–178. https://doi.org/10.1016/j.lcsi.2019.03.009

Thomas, L., & Beauchamp, C. (2011). Understanding new teachers' professional identities through metaphor. *Teaching and Teacher Education*, 27(4), 762-769.

Toussi, M. T. M., Boori, A. A., & Ghanizadeh, A. (2011). The Role of EFL Teachers' Self-Regulation in Effective Teaching. *World Journal of Education*, 1(2), 39-48.

Tsui, A. B. (2007). Complexities of identity formation: A narrative inquiry of an EFL teacher. *TESOL Quarterly*, 41(4), 657-680.

Urban, K., Pešout, O., Kombrza, J., & Urban, M. W. (2021). Metacognitively aware university students exhibit higher creativity and motivation to learn. *Thinking Skills and Creativity*, 42, 100963. https://doi.org/10.1016/j.tsc.2021.100963

Üstünbaş, Ü., & Alagözlü, N. (2021). Efficacy beliefs and metacognitive awareness in English language teaching and teacher education. *Bartın University Journal of Faculty of Education*, 10(2), 267-280.

Vandergrift, L., & Goh, C. C. (2012). *Teaching and learning second language listening: Metacognition in action*. Routledge.

Widiastuti, I. A. M. S. (2021). Assessment and feedback practices in the EFL classroom. *REID (Research and Evaluation in Education)*, 7(1), 13-22.

Widodo, H. P., Fang, F., & Elyas, T. (2020). The construction of language teacher professional identity in the Global Englishes territory: 'we are legitimate language teachers.' *Asian Englishes*, 22(3), 309–316. https://doi.org/10.1080/13488678.2020.1732683

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

Yazan, B. (2018). A conceptual framework to understand language teacher identities. *Journal of Second Language Teacher Education,* 1(1), 21-48.

Yazan, B. (2017). "It just made me look at language in a different way": ESOL teacher candidates' identity negotiation through teacher education coursework. *Linguistics and Education*, 40, 38-49.

Yazan, B., & Peercy, M. M. (2016). ESOL teacher candidates' emotions and identity development. In J. Crandall & M. Christison (Eds.), *Teacher education and professional development in TESOL: Global perspectives* (pp. 53-67). New York, NY: Routledge.

Yerdelen-Damar, S., Özdemir, Ö. F., & Cezmi, Ü. (2015). Pre-service physics teachers' metacognitive knowledge about their instructional practices. *Eurasia Journal of Mathematics, Science and Technology Education*, 11(5), 1009-1026.

Young & Fry (2008). Metacognitive Awareness and Academic Achievement in College Students. *Journal of the Scholarship of Teaching and Learning*, 8, 1-10.

Yuan, R., & Burns, A. (2017). Teacher identity development through action research: A Chinese experience. *Teachers and Teaching*, (23), 729–749. https:// doi.org/10.1080/13540602.2016.1219713

Yuan, R., & Zhang, L. J. (2020). Teacher metacognitions about identities: case studies of four expert language teachers in China. *TESOL Quarterly*, 54(4), 870-899.

Zhang, L. J. (2010). A dynamic metacognitive systems account of Chinese university students' knowledge about EFL reading. *TESOL Quarterly*, 44(2), 320–353.

Zhang, L. J. (2016). A dynamic metacognitive systems perspective on language learner autonomy. *Language learner autonomy: Teachers' beliefs and practices in East Asian contexts*, 150-166. Phnom Penh.

Zhang, L. J., & D. Zhang. (2013). Thinking metacognitively about metacognition in second and foreign language learning, teaching, and research: Toward a dynamic metacognitive systems perspective. *Contemporary Foreign Languages Studies*. 396 (12): 111–121.

Zhang, L. J., & Qin, T. L. (2018). Validating a questionnaire on EFL writers' metacognitive awareness of writing strategies in multimedia environments. In, Å. Haukås, C. Bjørke & M. Dypedahl (Eds.), *Metacognition in Language Learning and Teaching* (pp. 157–178). New York: Routledge.

APPENDICES

Appendix 1: Demographic Information

Gender:	Male ( ) Female ( )
Age:	20-26 ( ) 27-35 ( ) 36-45 ( ) 45 +
Type of university you work:	State ( ) Foundation ( )
Undergraduate Degree Program:	□ English Language Teaching (Faculty of Education) □ English Language and Literature □ English Linguistics □ Translation and Interpreting Studies □ American Culture and Literature
Years of experience	1-5 years ( ) 6-10 years ( ) 11-15 years ( ) 16-20 years (21 years and over ( )
Degree of education (completed)	BA ( ) MA ( ) PhD ( )
Degree of education (ongoing)	MA ( ) PhD ( )
The number of seminars/ conferences/ workshops attended for professional development	None ( ) 1-5 ( ) 6-10 ( ) 11-15 ( ) 16 and more ( )
Certificates Received	CELTA ( ) DELTA ( ) TEFL ( ) OTHER: (Please, write the name of the certificate)

I accept to participate in the study and complete this questionnaire voluntarily. ( )

Appendix 2: Metacognitive Awareness Inventory for Teachers (MAIT)

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 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 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

Appendix 3: Teacher Professional Identity Scale

This scale will be used to collect data to investigate Turkish EFL teachers' perceptions of professional teacher identity and to find out whether there is a correlation between the overall teacher identity scale and the MA scale. There are no right or wrong answers in this list of 17 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

I as a teacher ….

1. Help students apply what they have learned to their daily life.	12345
2. Love and care for students.	12345
3. Successfully motivate student learning.	12345
4. Explore the complexity of the various factors that affect student needs.	12345
5. Have a passion for continuous learning and excellence.	12345
6. Identify and support students' diverse needs for planning and designing curricular events.	12345
7. Promote close coordination among colleagues to enhance the quality of work.	12345
8. Commit to school goals in performing daily tasks.	12345
9. Demonstrate great flexibility and responsiveness.	12345
10. Believe all students can learn.	12345
11. Respect for diversity.	12345
12. Thoroughly understand school goals and policies as well as their underpinnings.	12345
13. Commit and dedicate to the profession.	12345
14. Use assessment results consistently to develop programs that improve student learning.	12345
15. Enhance students' learning outcomes.	12345
16. Serve as a role model for students in showing keen concern for local/global issues and living out positive social values.	12345
17. Collaborate, share and have team spirit.	12345

Appendix 4: Ethics Committee approval

T.C.
ORDU ÜNİVERSİTESİ REKTÖRLÜĞÜ
Sosyal ve Beşeri Bilimler Araştırmaları Etik Kurulu

OTURUM TARİHİ	OTURUM SAYISI	KARAR SAYISI
24/11/2022	15	2022-223

KARAR NO: 2022-223

Doç. Dr. Turgay HAN'ın "Üniversitelerin Yabancı Diller Yüksekokullarında Çalışan İngilizce Öğretim Görevlilerinin Üstbilişsel Farkındalık Düzeyleri ile Profesyonel Kimlik Gelişimleri Arasındaki İlişkinin İncelenmesi (An Investigation of the Relationship between the Metacognitive Awareness and Professional Identity Development of EFL Instructors Working at University Schools of Foreign Languages)" başlıklı çalışması etik yönden incelendi.

Doç. Dr. Turgay HAN'ın "Üniversitelerin Yabancı Diller Yüksekokullarında Çalışan İngilizce Öğretim Görevlilerinin Üstbilişsel Farkındalık Düzeyleri ile Profesyonel Kimlik Gelişimleri Arasındaki İlişkinin İncelenmesi (An Investigation of the Relationship between the Metacognitive Awareness and Professional Identity Development of EFL Instructors Working at University Schools of Foreign Languages)" başlıklı çalışmasının, etik yönden uygun olduğuna, toplantıya katılanların oy birliği ile karar verildi.

Asli Gibidir.

14/11/2022

Doç.Dr. Tuba ACAR ERDOL

Başkan

ÖZGEÇMİŞ

Adı Soyadı	Mine Bektaş
Yabancı Dili	İngilizce
Orcid Numarası	0000-0003-4267-556X
Ulusal Tez Merkezi Referans Numarası	10425396
Lise	TED Zonguldak Koleji
Lisans	Hacettepe Üniversitesi Amerikan Kültürü ve Edebiyatı
Yüksek Lisans	Ordu Üniversitesi İngiliz Dili ve Edebiyatı
Mesleki Deneyim	Zonguldak Karaelmas Üniversitesi Yabancı Diller Yüksekokulu /2003-2005 Bilkent Üniversitesi Yabancı Diller Yüksekokulu /2005-2008 Ordu Üniversitesi /2009-