

**THE REPUBLIC OF TÜRKİYE
SAKARYA UNIVERSITY
INSTITUTE OF EDUCATIONAL SCIENCES
MASTER OF ARTS PROGRAM IN ENGLISH LANGUAGE EDUCATION**

**RESEARCH ENGAGEMENT OF IN-SERVICE EFL TEACHERS: EXPLORING
RESEARCH SELF-EFFICACY, PERSONALITY TRAITS, AND CRITICAL
THINKING DISPOSITIONS**

A MASTER'S THESIS

SEDA BOY

SUPERVISOR

ASSIST. PROF. DR. MERVE SAVAŞCI

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DECLARATION

In this study that I prepared in accordance with the Sakarya University Institute of Educational Sciences Thesis-Project Writing Guide, I declare:

- All the information I obtained, and documents included in the thesis are within the framework of academic rules and ethical conduct,
- I referred to the works I have used and cited them as a source,
- I have not made any changes in any data,
- I do not present the whole or any part of this thesis as another thesis study.

Seda BOY

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ABSTRACT

RESEARCH ENGAGEMENT OF IN-SERVICE EFL TEACHERS: EXPLORING RESEARCH SELF-EFFICACY, PERSONALITY TRAITS, AND CRITICAL THINKING DISPOSITIONS

Seda BOY, Master Thesis

Supervisor: Assist. Prof. Dr. Merve SAVAŞCI

Sakarya University, 2024.

The aim of this cross-sectional mixed-methods descriptive correlational study is to investigate in-service EFL teachers' research engagement and the potential relationship between research engagement (both *with* and *in*) and their research self-efficacy, personality traits, and critical thinking dispositions. Participants were purposefully selected from in-service EFL teachers who had taken "Research Methods in Education" courses at Sakarya University and conducted research within the scope of this course. A total of 40 in-service EFL teachers participated in this study. The data for this research was obtained from both quantitative and qualitative data collection tools. Quantitative data were elicited through an adopted questionnaire and three scales: 1) English Language Teachers' Views of Research Questionnaire (Borg, 2009) 2) the Comprehensive Research Self-Efficacy Scale (C-RSES) (Taş et al., 2023), 3) the Big Five Inventory–2 (BFI-2) (Soto and John, 2017), 4) the Marmara Critical Thinking Dispositions Scale (Özgenel and Çetin, 2018). Meanwhile, the qualitative data were collected through open-ended questions developed by the researcher. Findings illustrated that in-service EFL teachers were not frequently research engaged, where their engagement levels varied between rarely and sometimes. The most cited reasons were lack of time and finding published research impractical. Also, some of the participants stated that their job is to teach not to conduct research. Besides, investigating teachers' research engagement, their research self-efficacy levels were also examined. As the findings revealed, teachers feel most self-efficacious in their knowledge of research ethics and processes, discussing findings, reviewing the literature, and formulating the research problem. Upon investigating participants' personality traits, the Agreeableness domain had the highest mean score among all the domains indicating that participants are compassionate, respectful, and have a forgiving nature. Conscientiousness and Open-mindedness also demonstrated relatively high mean scores compared to the other domains. When teachers' critical thinking dispositions were examined, findings demonstrated they exhibited the highest mean scores

in reasoning and reaching judgement sub-dimensions. In fact, they reported very high scores almost among all sub-dimensions. Later, to explore the relationship between teachers' research engagement, research self-efficacy, and critical thinking dispositions, a Mann-Whitney U test was conducted. Additionally, a chi-square test was used to examine the relationship between research engagement and personality traits. The results demonstrated that there was no significant relationship between these variables. However, the analysis of the relationship between research self-efficacy and research engagement revealed a single significant difference in the Conceptual/Theoretical Framework factor, where the high engagement group ranked significantly higher than the low engagement group. The study further explored the relationship between teachers' personality traits, research self-efficacy, and critical thinking dispositions. The study found that certain personality traits were positively correlated with both research self-efficacy and critical thinking dispositions. Extraversion, conscientiousness, and open-mindedness showed strong positive relationships with critical thinking dispositions, while extraversion also had a positive connection with research self-efficacy. Negative emotionality was linked to critical thinking dispositions as well, while agreeableness did not show significant correlations with either variable. The study underscored key barriers to teachers' research engagement, such as limited access to resources, time constraints, and perceptions of research as impractical. While this study has important implications for policy changes, institutional support, and professional development initiatives, it also has certain limitations. These limitations may have influenced the depth and generalizability of the findings. Future research could address these limitations by incorporating the suggested approaches.

Keywords: Research engagement, Research self-efficacy, Personality traits, Critical thinking dispositions.

ÖZET

HİZMET İÇİ İNGİLİZCE ÖĞRETMENLERİNİN ARAŞTIRMA KATILIMI: ARAŞTIRMA ÖZ-YETERLİKLERİ, KİŞİLİK ÖZELLİKLERİ VE ELEŞTİREL DÜŞÜNME EĞİLİMLERİNİN İNCELENMESİ

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Sakarya Üniversitesi, 2024.

Bu kesitsel, karma yöntemli betimsel ilişkisel araştırmanın amacı, hizmet içi İngilizce öğretmenlerinin araştırma katılımını ve araştırma katılımları (araştırma okuma ve yürütme) ile araştırma özyeterlikleri, kişilik özellikleri ve eleştirel düşünme eğilimleri arasındaki olası ilişkiyi incelemektir. Çalışmanın katılımcıları, Sakarya Üniversitesi’nde “Eğitimde Araştırma Yöntemleri” dersini almış ve bu ders kapsamında araştırma yürütmüş görevdeki İngilizce öğretmenleri arasından amaçlı örnekleme yöntemiyle seçilmiştir. Çalışmaya toplamda 40 hizmet içi İngilizce öğretmeni katılmıştır. Araştırmanın verileri hem nicel hem de nitel veri toplama araçlarıyla elde edilmiştir. Nicel veriler, uyarlanmış bir anket ve üç ölçek aracılığıyla toplanmıştır: 1) İngilizce Öğretmenlerinin Araştırmaya Yönelik Görüşleri Anketi (Borg, 2009), 2) Kapsamlı Araştırma Öz-Yeterlik Ölçeği (C-RSES) (Taş vd., 2023), 3) Beş Büyük Kişilik Envanteri–2 (BFI-2) (Soto ve John, 2017), 4) Marmara Eleştirel Düşünme Eğilimleri Ölçeği (Özgenel ve Çetin, 2018). Nitel veriler ise araştırmacı tarafından geliştirilen açık uçlu sorular aracılığıyla toplanmıştır. Bulgular, hizmet içi EFL öğretmenlerinin araştırmaya sık katılmadıklarını ve katılım düzeylerinin genellikle “nadiren” ile “bazen” arasında değiştiğini göstermektedir. En sık dile getirilen nedenler arasında zaman yetersizliği ve yayımlanmış araştırmaları pratik bulmama yer almaktadır. Ayrıca, bazı katılımcılar, asıl görevlerinin araştırma yapmak değil, öğretmek olduğunu ifade etmiştir. Araştırma katılımının yanı sıra, öğretmenlerin araştırma özyeterlik düzeyleri de incelenmiştir. Bulguların ortaya koyduğu üzere, öğretmenler en çok araştırma etiği ve süreçleri konusundaki bilgileri, bulguları tartışma, literatürü gözden geçirme ve araştırma problemini oluşturma konularında kendilerini öz yeterlik açısından yetkin hissetmektedir. Katılımcıların kişilik özellikleri incelendiğinde, Beş Faktör Kişilik Modeli’ne göre “Uyumluluk” boyutunun tüm boyutlar arasında en yüksek ortalama puana sahip olduğu görülmüştür. Bu durum, katılımcıların şefkatli, saygılı ve bağışlayıcı bir doğaya sahip olduğunu göstermektedir. “Sorumluluk” ve “Açıklık” boyutları da diğer boyutlara kıyasla

görece yüksek ortalama puanlara sahiptir. Öğretmenlerin eleştirel düşünme eğilimleri incelendiğinde ise en yüksek ortalama puanların “akıl yürütme” ve “yargıya varma” alt boyutlarında olduğu bulunmuştur. Aslında, öğretmenler neredeyse tüm alt boyutlarda oldukça yüksek puanlar bildirmiştir. Öğretmenlerin araştırma katılımı, araştırma özyeterliği ve eleştirel düşünme eğilimleri arasındaki ilişkiyi incelemek amacıyla Mann-Whitney U testi uygulanmıştır. Ayrıca, araştırma katılımı ile kişilik özellikleri arasındaki ilişkiyi belirlemek için ki-kare testi kullanılmıştır. Sonuçlar, bu değişkenler arasında anlamlı bir ilişki bulunmadığını göstermiştir. Ancak, araştırma özyeterliği ile araştırma katılımı arasındaki ilişki analiz edildiğinde, Kavramsal/Teorik Çerçeve boyutunda anlamlı bir fark olduğu belirlenmiştir. Buna göre, yüksek araştırma katılımı gösteren grup, düşük araştırma katılımı gösteren gruba kıyasla bu boyutta anlamlı düzeyde daha yüksek puan almıştır. Çalışmada ayrıca öğretmenlerin kişilik özellikleri, araştırma öz yeterlikleri ve eleştirel düşünme eğilimleri arasındaki ilişkiler de incelenmiştir. Sonuçlar, belirli kişilik özelliklerinin hem araştırma öz yeterliği hem de eleştirel düşünme eğilimleriyle pozitif yönde ilişkili olduğunu göstermektedir. “Dışadönüklük”, “Sorumluluk” ve “Açıklık” boyutları, eleştirel düşünme eğilimleri ile güçlü pozitif ilişkiler sergilerken, “Dışadönüklük” ayrıca araştırma öz yeterliğiyle de pozitif bir ilişki göstermiştir. “Olumsuz duygusallık” boyutu ise eleştirel düşünme eğilimleriyle bağlantılı bulunmuş, ancak “Uyumluluk” boyutunun her iki değişkenle de anlamlı bir ilişkisi tespit edilmemiştir. Çalışma, öğretmenlerin araştırma katılımını engelleyen önemli engelleri, sınırlı kaynak erişimi, zaman kısıtlamaları ve araştırmanın pratik dışı olarak algılanması gibi unsurları vurgulamıştır. Bu çalışma, politika değişiklikleri, kurumsal destek ve mesleki gelişim girişimleri için önemli sonuçlar doğursa da, bazı sınırlamaları da bulunmaktadır. Bu sınırlamalar, bulguların derinliğini ve genellenebilirliğini etkileyebilir. Gelecek araştırmalar, bu sınırlamaları, önerilen yaklaşımları dikkate alarak giderebilir.

Anahtar Kelimeler: Araştırma katılımı, Araştırma öz yeterliği, Kişilik özellikleri, Eleştirel düşünme eğilimleri.

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CHAPTER I

INTRODUCTION

This chapter describes the background of teacher research as well as the aim and significance of the study. Later, the chapter elaborates on the research questions that focus on examining research engagement levels of teachers, reasons, and (de) motivators for their engagement, and the relationship between their research engagement (*with/in*) and their research self-efficacy levels, personality traits, and critical thinking dispositions. The chapter then proceeds with explaining the problem statement and limitations of the study. Lastly, definitions of the key terminology are presented.

1.1. The Background of the Study

In an era where complex skills are needed for success in further education and the workforce, teachers' professional development (PD) emerges as a critical tool to equip both students for the challenges of the 21st century and teachers with the pedagogies required to teach these skills (Darling-Hammond et al., 2017). As the process of learning to teach is not limited to undergraduate education but is a lifelong activity (McLaughlin, 1991, as cited in Cochran-Smith and Lytle, 1999), teachers must be in a constant process of research and self-evaluation in order to continue their PD and improve their practice. The demand for continuous teacher education has been a prominent issue in language teaching communities for several years and has become a focal point with the rise of teacher-led initiatives such as action research (Richards and Farrell, 2005). Teachers are expected to approach their work with a critical perspective and constantly question and improve their teaching practices. In this regard, Teacher Research (TR) (i.e., action research), which refers to a type of research conducted by teachers in classroom settings, appears as an effective approach to foster PD while empowering teachers. In fact, it has increasingly been recognized as a critical PD strategy for the successful implementation of global reform initiatives in education (Groundwater-Smith et al., 2012). Therefore, the importance attached to research begins

within pre-service teacher education programs since it is regarded as a crucial component of higher education. As highlighted by Petrella and Jung (2008), undergraduate research programs contribute to students in various areas beyond academic development, such as developing patience for challenges, the ability to work independently, grasping how knowledge is developed, gaining self-confidence, supporting claims with evidence, and determining career direction. Therefore, it is now of great importance in higher education to produce graduates who are equipped to meet the demands of the current century. Similarly, in the context of Türkiye, teachers' initial research engagement typically begins during undergraduate education within teacher education programs. As outlined in the curricula established by the Turkish Higher Education Council (HEC), pre-service teachers are required to complete the "Research Methods in Education" course in the second year of their training. Engaging *in* inquiry-based research tasks can offer undergraduate students several advantages in supporting their learning process and PD during their professional education (Damşa and Nerland, 2016). Also, inquiry-based learning which includes students' research engagement can make significant contributions to strengthening the link between teaching and research (Spronken-Smith and Walker, 2010).

Numerous studies in literature address the benefits of teachers' involvement in research and its significance in educational settings (e.g., Atay, 2006, Barkhuizen, 2009; Borg, 2009, 2010; Cochran-Smith, Barnatt, Friedman, and Pine, 2009; Mckay, 2006). As it has been suggested by Cochran-Smith et al. (2009), carrying out TR creates a transformative effect on teachers' practice. In this regard, TR is considered an important tool for both deepening the theoretical and practical knowledge of teachers by also offering "a fuller conception of teacher learning that spans an entire career" (Blumenreich, 2006, p. 866). Similarly, Çelik and Dikilitaş (2015) highlighted that inquiry-based PD such as research supports teachers to explore and reflect on their own teaching strategies and practices, and such experience could serve as a guide to understand and make informed decisions in their classrooms. Overall, teachers' research engagement appears to pave the way for a better education by providing new insights to enhance the quality of learning and teaching (Borg, 2006; Mckay, 2006). Thus, the benefits of research engagement are not limited to individuals but also to the whole education system.

While teacher research (TR) is broadly acknowledged as advantageous for educators, its role becomes particularly significant for English-as-a-Foreign-Language (EFL) teachers (Gao et al., 2011) as it enhances their professional knowledge and practice. In recent years, the

exploration of in-service teachers' conceptualization of research as well as their engagement *with* and *in* research has garnered considerable attention. This growing emphasis on TR is often attributed to the rising importance of reflective practice (Schön, 1983), which encourages teachers to take a critical stance on their actions and classroom practices and enhance their instructional skills.

As teachers navigate the complexities of language teaching and learning in diverse educational settings, research engagement could become a valuable tool for enriching EFL teachers' pedagogy, fostering personal growth, and promoting professional development (Alhassan et al., 2020). Beyond being a transformative and effective learning tool (Blumenreich, 2006), TR offers many other benefits to EFL teachers. Taken together, by actively participating in research activities, which involve both reading existing research and conducting new research, educators enhance their ability to critically reflect on and analyze their teaching practices in the classroom (Atay, 2008; Borg, 2007, 2009, 2010). Through research engagement, EFL teachers can contribute to their knowledge, skills, and teaching practice, ultimately leading to improved education outcomes and greater student success. Hence, participating in activities that will enhance their PD is considered highly significant. More TR is needed to contribute to all stakeholders in education and to improve its quality.

1.1. Aim and Significance of the Study

Since it has been clearly observed that teachers who are research engaged develop both professionally and pedagogically (Borg, 2006), numerous studies have focused on understanding and promoting research-informed practice by investigating the extent and ways in which teachers engage *in* and *with* research in the last two decades (Al-maamiri et al., 2017; Ahmed and Pervin, 2013; Atay, 2008; Barkhuizen, 2009; Borg, 2009; Borg and Liu, 2013). Understanding the possible reasons for low research involvement among teachers and encouraging TR were common and main objectives of these studies. Studies conducted so far have focused on contextual factors that impact the research participation of EFL teachers. While these studies have advanced our understanding of the reasons behind research disengagement, it is a fact that they have solely paid attention to external explanations and contextual factors, namely institutional support, working hours, access to resources, etc. To illustrate, Allison and Carey (2007) noted the absence of institutional

support, research knowledge and skills, and time as the main reasons behind teachers' research disengagement. Another study carried out by Borg (2010) reported similar reasons, including inadequate time, knowledge, and access to research materials, as well as economic and political issues. However, upon closer examination, the opposite findings emerge, with teachers reporting low attendance even in environments where external support is relatively high (Borg and Liu, 2013), as well as teachers reporting regular attendance even in less supportive conditions (Gao et al., 2011). In this regard, it is suggested that variations in the degrees of involvement in development initiatives, including research, could be a result of ingrained and mostly unchanging individual personality traits. This point of view highlights theoretical frameworks and viewpoints that clarify how personal differences could impact involvement rates (Hezlett and McCauley, 2018; Murphy, 2002). Similarly, these individual differences were referred to in Watkins's (2006) study either, it was stated that teachers did not consider research as an activity in which every teacher would be enthusiastically involved. As one of the study's participants described it, "I think there is no doubt that in order for practitioners to get involved in research they have to have something within themselves" (Watkins, 2006, p. 14). They claimed that it is not something for everyone to engage in.

Accordingly, the significance of this study lies in its potential to explore in-service EFL teachers' research engagement and the potential relationship between relatively stable individual differences such as research self-efficacy, personality traits, and critical thinking dispositions. The specific objectives guiding this study are as follows:

- to examine Turkish EFL teachers' level of engagement *with* and *in* research
- to reveal potential motivations and reasons behind their engagement
- to explore the relationship between Turkish EFL teachers' research engagement and research self-efficacy, personality traits, and critical thinking dispositions.
- to fill in the gap in the literature by addressing the unexplored factors that influence TR engagement and its impact on TR engagement.

By addressing these gaps in the literature, this study explores the research engagement of Turkish in-service EFL teachers and the potential factors influencing it, namely individual differences such as research self-efficacy, personality traits, and critical thinking dispositions. This research contributes to a deeper understanding of the reasons behind teachers' research (dis)engagement and examines whether there is a relationship between

research engagement and the identified factors. The study is significant for the following reasons, including:

- valuable insights into design:
 - enhanced In-service Education and Training (INSET) research support programs
 - research courses that address the different needs of pre-service teachers in teacher education programs.
- guidance for educational policymakers in promoting support systems and incentives that align with the diverse needs of in-service teachers and result in increased research engagement overall.

By shedding light on these factors, this study aims to contribute to the growing body of research on TR and enhance our understanding of the reasons behind the variety in teachers' level of research engagement through investigating the potential individual differences.

1.2.1. Research Questions

In line with the objectives of this study, the following research questions were addressed in the study:

1. Do Turkish EFL teachers engage

1.1. *with* research (read research)?

1.1.a. If so, what do they read?

1.1.b. What do they think about the extent to which the research they read influences their teaching?

1.1.c. Why do they engage *with* (i.e., read) research? What is their motivation for reading research?

1.1.d. If not, why don't they engage *with* (i.e., read) research? What is their reason for not reading research?

1.2. *in* research (do research)?

1.2.a. If so, why do they engage *in* (i.e., do) research? What is their motivation for doing research?

- 1.2.b. If not, why don't they engage *in* (i.e., do) research? What is their reason for not doing research?
2. What are the personality traits, critical thinking dispositions, and research self-efficacy levels of in-service EFL teachers?
 - 2.1. Does in-service EFL teachers' research engagement vary according to their
 - 2.1.a. research self-efficacy?
 - 2.1.b. critical thinking dispositions?
 - 2.1.c. personality traits?
 - 2.2. What are the interrelationships among research self-efficacy, critical thinking dispositions, and personality traits?

1.2. Problem Statement

Although the literature on TR highlighted the essential role of research in teachers' profession, it remains rare for teachers to produce systematic and scientific research about their own practices. As Dörnyei (2007) stated, "there is one big problem with action research: there is too little of it" (p. 191). Considering the EFL context, similar results are evident. For example, Borg (2010) highlighted that unfortunately TR is not a very common activity in the language teaching field either, proposing that discovering the reasons behind the research disengagement would help us encourage and advocate TR more effectively.

According to previous studies, EFL teachers tend to have moderate levels of research awareness and acknowledge the essential role and benefits of research in their practice. Nevertheless, they still report low to moderate levels of research engagement (Ahmed and Pervin, 2013; Borg, 2009; Borg and Liu, 2013; Mehrani, 2015). Upon examining the previous studies, it was discovered that these studies have solely focused on external explanations and contextual factors to explain the variability in research engagement levels (e.g., Allison and Carey; Borg, 2009, 2010). Nevertheless, differences in teachers' research involvement highlight theoretical models and perspectives indicating that variation in levels of participation in developmental activities such as research might reasonably result from individuals' relatively stable differences (Hezlett and McCauley, 2018; Murphy, 2002). The

quantity of research concentrating on the impact of these individual differences on teachers' research participation is quite scarce (Bahrami and Hosseini, 2023). When the reasons for teachers' disengagement in the research are examined, it is seen that these individual differences, namely personality traits, research self-efficacy, and critical thinking dispositions have not been adequately investigated in the existing literature.

To this end, this study mainly focused on exploring and detailing the relationship between research engagement of in-service EFL teachers and their personality traits, research self-efficacy, and critical thinking dispositions.

1.3. Limitations

There are some limitations within the scope of this study, which need to be highlighted to increase the transparency and reliability of the study. First, to limit sample bias and increase the reliability of the research results (Fowler, 2013; Creswell and Creswell, 2017), this study was carried out with the participation of in-service EFL teachers who were the graduates of a particular state university and conducted research within the scope of the "Research Methods in Education" course offered in the second year as a compulsory course in the pre-service teacher education program curriculum. Therefore, the small sample size of participants employed in this study limits the generalizability of the obtained results to a broader population.

Moreover, another limitation might stem from the study's methodology, as it examined teachers' research engagement at a single point in time. It is possible that this cross-sectional design provides only a limited perspective on the dynamics and nature of their engagement and does not capture how it may have evolved over time.

In addition, the fact that participants had previous experience conducting small-scale research could be considered as a factor that could affect the results of this study. Previous research experiences might have shaped the way participants approached the research process and evaluated the results. For instance, some teachers may have received strong mentoring during their research experience, fostering confidence in the process, while others may have faced challenges due to gaps in areas such as statistical knowledge or mentorship support. Therefore, conducting studies with a larger and more diverse sample could provide

clearer insights into the impact of research experience on engagement and perceptions of the research process.

1.4. Definitions

Teacher Research: It refers to “systematic inquiry, qualitative and/or quantitative, conducted by teachers in their own professional contexts, individually or collaboratively (with other teachers and/or external collaborators), which aims to enhance teachers’ understandings of some aspect of their work, is made public, has the potential to contribute to better quality teaching and learning in individual classrooms, and which may also inform institutional improvement and educational policy more broadly” (Borg, 2010, p. 395).

Engagement *with* research: It refers to a kind of engagement that involves merely reading research (Borg, 2010).

Engagement *in* research: It denotes to actively carrying out research, in other words doing research (Borg, 2010).

Self-efficacy: It is defined as “beliefs in one’s capabilities to organise and execute the courses of action required to produce given attainments” (Bandura, 1997, p. 3).

Research Self-efficacy: It is defined as “as one’s confidence in successfully performing tasks associated with conducting research” (Forester et al., 2004, p. 4).

Personality traits: Personality traits refer to “relatively stable individual differences in consistent patterns of behavior” (Matsumoto, 2009, p. 549).

Critical thinking (CT): Critical thinking is defined as “purposeful, reasoned, and goal-directed. It is the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions” (Halpern, 1998, pp. 450-451).

Critical thinking dispositions: Critical thinking dispositions refer to having the desire to use critical thinking skills (Harrell and Wetzel, 2015).

CHAPTER II

LITERATURE REVIEW

This chapter provides a thorough definition of the TR, research self-efficacy, personality traits, and critical thinking dispositions. It also discusses the historical background and benefits of TR, followed by reasons for (not) engaging *with* and *in* research within the EFL context. Lastly, the chapter presents a comprehensive review of earlier studies conducted with in-service teachers in the international context and Turkish context with a critical perspective.

2.1. Teacher Research

TR, a distinct form of research, is conducted by teachers in classrooms and school settings. TR is also represented in the literature under different terms, Roulston et al. (2005) have compiled and listed various terminology used interchangeably with TR, including *action research*, *collaborative inquiry*, *critical inquiry*, *practitioner research*, and *self-study*. Although these terms tend to be used interchangeably, they have different characteristics in nature. Although action research and classroom research have similar aspects, they are not as comprehensive as TR. As Bailey (2001) and Borg (2010) emphasize, the difference can be summarized as follows: the term classroom research is related to the place and focus of the study, while action research refers to a certain approach, but what distinguishes TR from the previous definitions is that it refers to the agent who carries out the study. Therefore, the term “TR” will be used throughout this study as it provides the most appropriate and comprehensive definition of the construct under investigation.

Many researchers have proposed various definitions in order to express the TR and its scope clearly. For example, Cochran-Smith and Lytle (1999) defined TR as “in the broadest possible sense to encompass all forms of practitioner inquiry that involve systematic, intentional, and self-critical inquiry about one’s work in K-12, higher education, or continuing education classrooms, schools, programs, and other formal educational settings”

(p. 22). A similar definition of TR is suggested by Lankshear and Knobel (2004) as “classroom practitioners at any level, from preschool to tertiary, who are involved individually or collaboratively in self-motivated and self-generated systematic and informed inquiry undertaken with a view to enhancing their vocation as professional educators” (p. 9). Borg (2009) succinctly defined TR as “systematic, rigorous enquiry by teacher into their own professional contexts” (p. 377). According to Parsons and Brown (2002), research is a tool that teachers employ to investigate issues related to their interests and include the findings of their study into their planning and future practice.

Borg (2010) took a critical stance on the previous definitions of TR, though; he claimed that the previous definitions lack some fundamental features and some of the descriptions are limited to factors such as a specific data collection procedure, a particular location, and focus, whether the research is disseminated or not, etc. Since the previously presented definitions had fundamental limitations, Borg (2010) offered a comprehensive definition of the TR as follows:

“systematic inquiry, qualitative and/or quantitative, conducted by teachers in their own professional contexts, individually or collaboratively (with other teachers and/or external collaborators), which aims to enhance teachers’ understandings of some aspect of their work, is made public, has the potential to contribute to better quality teaching and learning in individual classrooms, and which may also inform institutional improvement and educational policy more broadly” (Borg, 2010, p. 395)

Principally, these definitions propose that TR is a practice that teachers carry out in their own contexts such as classrooms, where the main purpose of this action is to improve both the quality of their learning and teaching.

2.1.1. History of Teacher Research

Action research is considered the origin of TR and is generally attributed to the work of Kurt Lewin in the USA in the 1940s (Borg, 2010). Another proponent of action research was Stephen Corey who has been recognized by many scholars (e.g., Noffke, 1994; Somekh, 2010) as a pioneering figure in the USA. The more recent emergence of TR in the UK and USA occurred in the 1970s as educational reform sought to democratize education and foster a more participatory process (Borg, 2010). In the UK, this TR movement was generally linked to the works of Stenhouse (1975) and Elliot (1990, 1991). On the other hand, Schön's (1983) work on reflective practice played an important role in the renewed interest in TR in

the United States. Schön (1983) emphasized that “research is an activity of practitioners. It is triggered by features of the practice situation, undertaken on the spot, and immediately linked to action” (p. 308).

Schön’s (1983) argument that professionals should be reflective practitioners encouraged teachers to take on the role of autonomous researchers in their own work, leading to a better understanding of their practice. When investigated, the origins of interest in TR in language teaching specifically date back to the late 1980s (Borg, 2010). As Allwright and Bailey (1991) note, the reason for this interest to emerge was because of the ambiguous results of large-scale studies that aimed to find the best ways to enhance language learning. These endeavors have indicated that global pedagogical methods may be ineffective, suggesting that local and classroom-based research may be a more effective alternative. Hence, views emerged suggesting that language education should become context-specific, highlighting the importance of situational understanding, which considers the teaching and learning context (Kumaravadivelu, 2006).

Over the last two decades, many studies have been published with the goal of equipping language teachers to engage in research, frequently emphasizing a TR or action research perspective (Burns, 2010). Likewise, Nunan's studies (1990, 1993) have been instrumental in the importance of TR in language teaching.

2.1.2. Research Engagement

In reviewing the literature on TR engagement, it is essential to distinguish between two primary forms of engagement. Borg (2010) distinguishes research engagement under two distinct headings, the first, engagement *with* research refers to a kind of engagement that involves merely reading research. The latter is engagement *in* research, which denotes actively carrying out research, in other words doing research. In the following headings, first, the studies focusing on teachers’ engagement *with* research will be explored, followed by those addressing engagement *in* research.

2.1.2.1. Engagement *with* research

Engagement *with* research is essential for both practitioners and scholars, as it ensures that knowledge is not only produced by researchers but also applied effectively by teachers. Research should be accessible and beneficial to a wide audience rather than being confined to certain specialists. In fact, “Educational research is for the benefit of the held as a whole, not for just a handful of specialists. That is why it is important for you to improve your skills as a consumer of research.” (Shank and Brown, 2007, p. 6). As emphasized by Shank and Brown (2007), reading research provides teachers with valuable insights into their work, such as the ability to independently assess the reliability and relevance of research for their work, become critical consumers of information, and gain a deeper understanding of their teaching practices (Borg, 2010; Everton et al., 2000; Mcmillan and Wergin, 2010). Borg (2010) outlined several key benefits associated with reading research for teachers in the following list:

- gain a more profound understanding of their professional practices
- explore new ideas to try out in their classrooms
- broaden their conversational scope about teaching practices
- strengthen the credibility of their practices with a theoretical basis
- investigate the thought process for their planning and decision-making.

Expanding on the list above, McMillan and Wergin (2010) who acknowledge the contributions of engaging *with* research, emphasized how important it is for teachers to be autonomous in assessing the reliability or usefulness of research and to be able to read, critique, and evaluate research on their own. Adding to this, Everton, Galton, and Pell (2000) found out that reading research significantly impacted teachers’ perspectives on teaching. Specifically, 49% of teachers noted that studying research enhanced their views, 29% indicated that research encouraged them to question their perspectives, and 22% stated that research confirmed their existing views.

Taken together, teachers are expected to be critical consumers of educational research, and their teaching should be research-informed (Borg, 2010). However, this does not mean that research should directly guide practice; instead, it encourages teachers to take responsibility and evaluate the suggestions in their own context and decide what they might actually use in their classrooms (Clarke, 1994). Considering the needs and requirements of each school

and teachers' practices change over time, teachers are advised to reflect on their practices and make necessary adjustments to meet the needs of teaching and reach research-informed decisions.

2.1.2.2. Engagement *in* research

While engagement *with* research focuses on consuming existing knowledge, moving to engagement *in* research shifts the focus towards active participation in the creation of new knowledge that results in positive outcomes in educational contexts. Various studies have shown that teachers' conducting research provides many benefits in terms of both their personal development (e.g., Donato, 2003; Lankshear and Knobel, 2004; Roberts, 1993) and their teaching practices (e.g., Atay, 2006; Crookes, 1993). To illustrate, Richert (1996, as cited in McLaughlin and Black Hawkins, 2004) highlighted the effects of teachers engaging *in* research, the following list of positive outcomes were identified:

- a renewed enthusiasm for their profession and a strengthened awareness of their role as teachers
- research experience reinforced teachers' awareness of their intellectual potential and its value in their professional practice
- helped teachers recognize the significance of their contributions to the school
- re-established bonds with colleagues and renewed their early motivation for teaching
- prompted teachers to gain a greater awareness of their capabilities and responsibilities as teachers
- through research engagement, teachers regained professionalism and empowerment by having a voice and expressing their views.

In a sense, engaging *in* research ignited a change in teachers' passive positions in the educational system and motivated them to take an active and innovative role in the curriculum development process (Gurney, 1989 as cited in Borg, 2010). The benefits of research engagement extend to better emotional regulation too, research can enable teachers to cope better with feelings of frustration and isolation (Roberts, 1993) and it also enables teachers to be more resilient against vulnerabilities and external challenges (Donato, 2003). Likewise, Watkins (2006) noted that teachers in special education who participated in TR projects reported that their involvement helped them gain an external perspective on

teaching, learn from others, understand the practical relevance of research in the classroom, and build social networks.

In a nutshell, by actively engaging *in* research, which involves both reading existing research and conducting new research, educators enhance their ability to critically reflect on and analyze their teaching practices in the classroom (Atay, 2008; Borg, 2007, 2009, 2010).

2.1.3. Theoretical Framework

The study was framed with Vygotsky's (1978) Sociocultural Theory (SCT) since it offers a "tremendous explanatory power for understanding the processes of teacher learning" (Johnson and Golombek, 2003, p. 730). Vygotsky's theory suggests that learning and understanding are shaped through social interactions with the environment involving interaction with people, objects, and events (Vygotsky, 1978). That is, learning occurs through what the individual experiences in a social context, and this context is closely related to cultural and social factors. To put it simply, a child learns their first language by listening and mimicking adults around them, and as they grow, they start learning culture-specific norms and customs as well. This entire process shapes the knowledge that the child constructs. In this regard, human behaviors are considered as the collective results of socially and culturally constructed forms of mediation (Lantolf and Thorne, 2006). Teacher learning, in particular, is emphasized as an approach that views learning as a situated social practice involving mediation, discourse, social interaction, and participation structures. In other words, it suggests that learning is shaped by individuals' experiences through their participation in social contexts and activities.

To further elaborate, SCT offers a wide range of insights regarding teacher learning and PD (Abakah, 2023). SCT carries the capacity to explain the starting points, functioning, characteristics, and effects of teachers' PD throughout their careers and in the environments where they live, learn, and work (Johnson and Golombek, 2011). According to Lortie (1975), teachers often base their understanding of teaching and learning and their ideas about teaching methods on their experiences as learners, thus when they first start their profession, they hold rooted notions about how to teach. These ingrained understandings are formed over very long periods of time and as a result of the school contexts in which we participated. This shows that individuals' past learning processes can significantly influence their future

teaching approaches. Therefore, experiential knowledge may be insufficient or even counterproductive in developing teachers' expertise, which is why teacher education programs can and should actively play an important role in promoting and advancing teachers' PD (Johnson and Golombek, 2011). In this regard, teacher education programs aim to introduce scientific knowledge and methods to teachers in a way that alters their everyday beliefs, so they are no longer limited by their apprenticeship of observation (Lortie, 1975).

Also, the theory underlines the collaborative essence of learning using social interaction as a tool during knowledge construction. This aspect advocates collaborative and participatory CPD activities, where participants are encouraged to share similar experiences they have, engage in social interaction, and disseminate their views to inform their practice (El-Deghaidy et al., 2015). This encourages a more interactive, dialog-based form of CPD, where the focus is on active learning that engages teachers in the process, rather than overriding their existing knowledge and skills (Abakah, 2023). Within the context of global reform initiatives in education, teacher PD is seen as an important endeavor to improve the quality of teaching and learning (James and Augustine, 2018). Therefore, TR has been advocated as a highly useful PD approach for better implementations of similar initiatives (Groundwater-Smith et al., 2012). Due to its reflective nature, research can be considered as one of the most important CPD activities for teachers. It is reasonable to conclude that experiences have a significant impact on teachers' beliefs and knowledge. Hence, teachers can engage more in research related to their profession, thereby replacing their previously formed beliefs with more informed, and inquiry-based ones.

2.1.4. Reasons for not Being Research Engaged

Although the several pronounced benefits of teachers being engaged with and in research, not all teachers do so. Borg (2010) summarized many studies from the literature on what prevents teachers from engaging *in* research and presented the following list of barriers:

- a school culture that is uncooperative and lacks support from both colleagues and students to do research
- limitations experienced by teachers in terms of awareness, beliefs, skills, and knowledge such as fears of not being competent and perceiving that way by others, seeing themselves as consumers of knowledge, not generators.

- limited number of resources which entails a lack of time to conduct research and difficulty in accessing literature and having no internal or external expert guidance.
- factors that reduce motivation such as lacking a sound reason and concrete benefits to do research, witnessing that their efforts or interests are not recognized by colleagues or authorities.
- economic issues like excessive workload and not earning enough money to support themselves.
- leadership characteristics related to perspectives on conducting research, most of the leaders are not research-engaged and they show no effort to support teachers' research engagement, on the contrary, they even discourage teachers from conducting research.
- political issues such as the requirement of following the official curriculum.

The reasons mentioned above have also been frequently mentioned by other researchers. For example, Sato and Loewen (2019) highlighted that limited access to research is a significant barrier to engagement and some teachers can only rely on the libraries of their former institutions to access relevant articles. Similarly, a study by Marsden and Kasprowicz (2017) on the relationship between published research and language teaching found that teachers have limited exposure to research, and a dissociation exists between professional and academic publications. Due to such dissociations, teachers and researchers are considered as two distinct communities, and being a member of one may affect or exclude participation in the other (Tavakoli, 2015). The fact that teachers see themselves as consumers of information rather than producers of information is among the most common reasons why they do not see their own skills and knowledge as sufficient to conduct research (Borg, 2010). Unfortunately, this belief is common among L2 researchers as well, whether consciously or unconsciously researchers see teachers as mere consumers of information (Sato and Loewen, 2022). In his article titled "Dismantling the Ivory Tower," Rose (2019) expressed this issue which is related to the power imbalance in creating the research agenda by stating "research aims to dictate the *what and how* of teaching, but teaching issues play a minimal role in dictating the *what and how* of research" (p. 4, emphasis in original). However, contrary to popular belief, teachers are not mere consumers of knowledge; their expertise and intuitive wisdom are truly invaluable resources when it comes to making pedagogical decisions (Cooper et al., 2009). Indeed, practitioners are individuals who know students and the classroom environment better, and they are capable of observing emerging problems more

clearly and making necessary adjustments according to the needs of the students and classroom. Accordingly, it would be more practical for teachers to engage actively in the research process. Teachers being included in all the steps of the process as co-writers in the research could improve the relevance of the real world (Rose, 2019).

Overall, the lack of collaboration in the school environment, limitations in teachers' professional perception skills and knowledge, lack of time, limited availability of accessing resources, and demotivating factors such as not having a sound reason to carry out research or not receiving any kind of support or reward for their effort, economic and political issues, and not being encouraged by the leaders have generally been reported as the main reasons serving as barriers to research engagement (Agbayahoun, 2016; Alhassan et al., 2020; Almaamiri et al., 2017; Borg, 2009; Borg and Liu, 2012; Çelik and Dikilitaş, 2015; Everton et al., 2000; Gao et al., 2011; Rahimi and Weisi, 2018; Sadeghi and Abutorabi, 2017; Sönmez Boran, 2018; Tavakoli and Howard, 2012).

Although the factors mentioned above are effective in determining teachers' participation in research, this participation should not be limited to contextual factors alone. As stated earlier, the fact that teachers do not engage at the expected level even when appropriate conditions are provided (Borg and Liu, 2013; Watkins, 2006) suggests that individual differences may also play a role in teachers' research involvement.

2.2. Individual Differences in Research Engagement

One of the individual differences that might be influential could be teachers' *research self-efficacy*. As Bandura (1986) emphasized, one's belief and confidence in oneself are crucial determinants of learning outcomes and performance. This concept extends to research engagement, where self-efficacy may significantly influence teachers' participation (Cabaroğlu, 2014; Rahimi and Weisi, 2018). Another individual difference that might have an impact on teachers' research engagement could be *critical thinking dispositions* which refer to an individual's willingness to pursue a task (Halpern, 1999). Also, Rahimi and Weisi (2018) identified critical reflection as a significant predictor of research practice. The findings highlighted that EFL teachers' research practices and reflective practice subscales are positively related; however, only cognitive and critical reflection predict research practices the most. In this context, it can be suggested that teachers who engage in critical

reflection generally have stronger critical thinking dispositions, and it would be a good inference to investigate whether there is a relationship between teachers' critical thinking dispositions and engagements. Lastly, *personality traits*, known to shape individuals' ways of thinking, feeling, and behaving (Soto and John, 2017), are also likely to influence research engagement. For instance, Noe, Tews, and Marand (2013) suggested that some facets of the Big Five seem to have a significant relationship with informal learning (research engagement).

To better understand the role of these individual differences, the following sections delve into the roles of research self-efficacy, critical thinking dispositions, and personality traits in greater detail.

2.2.1. Research self-efficacy and research

The concept of self-efficacy, which has received widespread interest, was developed from Bandura's Social Learning Theory (1971), in which Bandura emphasized the impact of self-regulation on one's behavior. Bandura (1997) defined self-efficacy as “beliefs in one’s capabilities to organise and execute the courses of action required to produce given attainments” (p. 3). Also, Bandura (1986) stated that for individuals to undertake and sustain tasks, they must consider themselves as competent in managing their thoughts, feelings, and actions. From this theory, one can derive the idea that learning outcomes and performance depend on individuals' belief and confidence in their own abilities. Nevertheless, not only teachers' in-class responsibilities but also their PD processes can be influenced by their self-efficacy beliefs, which leads us to research self-efficacy, defined as a form of self-efficacy, is the confidence an individual has in their ability to successfully carry out the tasks associated with conducting research (Bieschke, Bishop, and Garcia, 1996). Similarly, Forester et al. (2004) described research self-efficacy as “as one’s confidence in successfully performing tasks associated with conducting research” (p. 4). In this context, it can be concluded that teachers' research self-efficacy might also affect their research engagement levels and research performance. To illustrate, it has been stated that researchers' beliefs in their own abilities would affect their learning about research and their research performance (Taş et al., 2023). Similarly, previous studies have shown that people with high academic self-efficacy set higher goals for themselves, are more determined and persevering in

achieving these goals, and are skilled at developing problem-solving strategies (Pajares, 1996; Schunk and Pajares, 2002; Yilmaz, Gurcay, and Ekici, 2007).

Accordingly, in order for teachers to also have researcher identities, they are expected to have strong self-efficacy beliefs and see themselves capable of conducting research. To illustrate, Rahimi and Weisi (2018) conducted a study with EFL teachers (N = 150) to explore the relationship between their reflective practices, self-efficacy, and research practice. Findings indicated a significant positive relationship among reflective practices, self-efficacy, and research practice. Based on this, the study highlighted that EFL teachers who engage in more reflective practice and have more self-efficacy in their English language performance are more likely to be interested in and involved in research in the field of ELT. A similar relationship was also found in Cabaroglu's (2014) study where pre-service teachers were investigated; she noted that teachers' research practice had a positive effect on their self-efficacy beliefs. As Rahimi and Weisi (2018) suggested their study could be conducted in different contexts to see if the same correlations exist; thus, examining the relationship between the mentioned variables from the perspective of Turkish in-service English teachers may contribute to the literature.

2.2.2. Critical thinking dispositions and research

Critical thinking is often characterized as “purposeful, reasoned, and goal-directed. It is the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions” (Halpern, 1998, pp. 450-451). Yet, critical thinking, beyond just its definition, requires knowing in which situations to use critical thinking skills (CTS) and having the desire to use skills that indicate critical thinking dispositions (CTD) (Harrell and Wetzel, 2015). Although they are concepts that often cause confusion, CTS and CTD are essentially different. While being skilled refers to possessing CTS, such as analysis, evaluation, and interpretation of information, having a CTD is more closely associated with an individual's inclination and willingness to actively engage with and utilize these skills when necessary. This distinction aligns with Facione's (2000) argument that merely having CTS does not guarantee their application, just as a disposition toward critical thinking does not necessarily indicate competency in these skills. Accordingly, in addition to the importance of improving CTS, it is also crucial to have confidence in one's ability to utilize

these skills autonomously and effectively (Bandura, 1997; Vansteenkiste et al., 2009). In this regard, Halpern (1999) addresses the vital role of self-efficacy, in explaining thinking dispositions that require effort, such as the willingness to start and insist on challenging tasks, goal setting and self-control, the capacity for self-correction, and understanding factors that may hinder a task. In fact, these skills are broadly similar to the competencies needed in undergraduate research projects (Bauer and Bennett, 2003; Chemers, 2011, Kardash, 2000). Additionally, as self-efficacy increases, it has been observed that individuals' coping skills, strategic efforts, and tendency to resist obstacles also increase, which allows for more learning by supporting continuous engagement (Bandura, 1997). When such effortful thinking dispositions are not present, research students may consider difficult tasks as assigned by others, which can result in negative emotional reactions and loss of motivation (Vansteenkiste et al., 2009). It appears that self-efficacy plays an important role in how students approach certain tasks, especially research-related tasks. The same inference can be made for teachers.

2.2.3. Personality traits and research

Personality traits, in general terms, refer to “relatively stable individual differences in consistent patterns of behavior” (Matsumoto, 2009, p. 549). Studies conducted by researchers over the last thirty years have led to the emergence of a personality taxonomy called the Five Factor model, the Big Five, and so forth (Costa and McCrae, 1995; Goldberg, 2013; John and Srivastava, 1999). Personality traits can be classified in many different ways; however, the most common and accepted classification is the structure known as the Five Factor Model (Big Five). This structure is divided into 5 dimensions: *extraversion*, *agreeableness*, *conscientiousness*, *negative emotionality* (alternatively labeled neuroticism vs. emotional stability), and *open-mindedness*. The Big Five personality structure plays a determining role in many significant individual differences such as ways of thinking, feeling, and behaving (Soto and John, 2017).

McCrae and Costa (2003) define the personality traits of the Big Five as follows; *Extraversion* denotes the extent to which someone is sociable and tends to participate in social interaction; *Openness to Experience* refers to the extent to which a person is open to different ideas and actions, has intellectual curiosity, and evaluates information and learning

for its own value; *Conscientiousness* relates to a person's level of achievement-oriented behavior, self-discipline, and diligence; *Agreeableness* signifies how altruistic, trustworthy, and cooperative an individual is. Lastly, *Neuroticism*, which is the final sub-dimension of personality traits, describes how sensitive an individual is to negative emotional experiences and unpleasant thoughts and actions.

Upon reviewing the literature, it is seen that there is broad agreement that the Five Factor Model (i.e. Big Five personality traits) influences behavior across cultures and across tasks (McCrae and Costa, 2003). In meta-analyses (Cerasoli et al., 2018) and systematic PD teacher reviews (Krille, 2020), personality traits that have been studied commonly through the Five-Factor model (Li et al., 2014) have been the most prominent factor of teachers' participation in PD activities. This influence also encompasses participation in developmental activities (Cortina and Ingerick, 2005). In his study, for example, Gilchrist (2018) stated that possessing characteristics like being inquisitive might give rise to teachers' increased involvement in research. To illustrate, Lohman (2005) conducted a survey to describe the informal workplace learning experiences of public-school teachers. She found out that personality types such as being nurturing and outgoing influence teachers' participation in these kinds of PD activities. Personality traits make individual differences more apparent and stable, which may contribute to our understanding of why teachers' interest in research is varied (Noe et al., 2013). As Bahrami and Hosseini (2023) pointed out, similar studies like this one appear to show the potential of personality traits in providing a more comprehensive overall picture of the PD of teachers' potential through research (Bahrami and Hosseini, 2023).

2.1.5. Studies Related to Teacher Research

TR studies have primarily focused on pre-service and in-service teachers. Research on pre-service teachers (PSTs) has examined various aspects, including their attitudes toward research (Ögeyik, 2013; Papanastasiou, 2005), their experiences and views on research (Akyel, 2015; Savaşçı and Atar, 2024; Trent, 2012), and factors influencing their research engagement (Guilbert, Lane, and Bergen, 2015). Some studies have specifically explored the impact of action research on PSTs' self-efficacy and professional development (Cabaroglu, 2014) as well as the role of motivation in shaping their engagement *with*

research (Müjdeci, 2020). Additionally, research engagement challenges such as time constraints and difficulties during practice teaching and data collection have been highlighted in the literature (Akyel, 2015).

In essence, studies suggest that pre-service teachers' research engagement is influenced by various factors. Furthermore, the majority of the studies demonstrated that although pre-service teachers possessed strong negative feelings towards research before research engagement, their attitudes have positively changed after engaging *in* research. It can be concluded that research experience has a positive effect on the research engagement of pre-service teachers.

2.1.5.1. In-service Teacher Research Engagement

TR is valued as a means of expanding the theoretical and practical knowledge of teachers. As Blumenreich (2006) puts forward, TR “offer [s] a fuller conception of teacher learning that spans an entire career and renders obsolete the divisions between expert and novice, theory and practice, and researcher and practitioner.” (p. 866). Similarly, there are many published studies detailing the benefits of TR engagement *in* the literature (Atay, 2006, 2008; Barkhuizen, 2009; Borg, 2007, 2009, 2010; Cochran-Smith, Barnatt, Friedman, and Pine, 2009) A considerable number of these studies have been conducted within the framework of in-service EFL teachers research engagement (Alhassan et al., 2020; Borg, 2009; Borg and Liu, 2012, Puspitasari et al., 2021) and teachers views and experiences regarding TR (Beycioğlu et al., 2010; Gao, Barkhuizen, and Chow, 2011; Mehrani, 2016; Sadeghi and Abutorabi, 2017; Tavakoli and Howard, 2012).

To begin with, one of the earlier studies was carried out by Everton et al. (2000) investigating teachers' perspectives on educational research and its value in classroom practice. The study took place in the British context with the participation of 302 English teachers who were mostly experienced educators in senior management positions. 96% of participants reported serious consideration of educational research findings since starting their teaching careers and it was observed that older teachers in particular had a high engagement rate, while younger teachers were not very interested in research. Several reasons were noted for the lack of engagement among younger teachers, including the increasing perception of teaching as a technical activity, the emotional nature of teaching that fosters resistance, the limited

relevance of current research to teachers' immediate concerns, and their tendency to seek encouragement from external sources rather than within the school, which diminishes their interest in educational research. In terms of benefits, nearly half of the teachers stated that research engagement had created a positive change in their views, while almost one-third stated that they were inclined to reassess their current situation. Teachers viewed research as most valuable when it focused on classroom actions, and teacher-pupil interaction, and gave specific information on pedagogy, feedback, and assessment. Additionally, with research engagement, teachers became more effective in assessing themselves and improving their practice.

Later on, Borg (2009) conducted a comprehensive international large-scale research with the participation of 505 EFL teachers from 13 different countries, where the primary aim was to capture how research is conceptualized by ELT teachers working across diverse countries. The participants of the study reported their conceptions of research (e.g., characteristics of research, institutional research culture), level of engagement *with* and *in* research, and some specific background variables. To evaluate teachers' conception of research, a questionnaire with six sections was employed. In the first section, teachers evaluated 10 scenarios to determine what qualifies as research. They were more likely to consider a scenario as research if it included features such as a large sample, statistical analysis, or an academic output. In the following sections, the participants were asked to report their levels of engagement *with* and *in* research. Findings revealed that teachers had moderate to low levels of reading (engagement *with*) and doing research (engagement *in*). For not reading research, the most frequently cited reason was lack of time, while other reasons included the limited contributions of research and its overly theoretical nature, which lacked practical relevance. For not doing research, lack of time was again the most commonly cited reason, followed by the fact that they believe most of their colleagues do not do it either, and lack of knowledge about how to conduct research. On the other hand, teachers who reported doing research were asked to reveal their reasons for engaging *in* research. There are three main reasons to mention, namely, finding better ways of teaching, solving problems in their teaching, and enhancing their professional development. Besides, teachers who engaged in research revealed that they were solely inspired to do research by practical and professional concerns, not by their employers or promotions.

Another study by Tavakoli and Howard (2012) investigated the views and beliefs of 60 teachers working at English language teaching institutions in England regarding the

relationship between L2 research and practice. The study uncovered that teachers generally understand the value and benefits of research and agree that it is essential for teachers. Some of the ways the teachers engage with research activities include reading an article, using the theoretical training they received, and trying out some of their research training in the classroom. Only a small percentage stated that they participate in conferences or conduct research in their own classroom but had some concerns about its practical and classroom applicability. The main reasons stated by teachers were lack of institutional support, heavy workload, and financial constraints. Also, the study found a small but significant positive correlation between teachers' qualifications and their involvement in research activities. This correlation indicated that teachers with higher qualifications, like diplomas or postgraduate degrees, are more likely to engage in research activities and find research more useful. Also, they had fewer positive views about the practical relevance of the research and the extent to which they could rely on it for their practice. According to the findings, most teachers recognized a gap between research and practice. They also considered research as something separate from practice and researchers as something separate from teachers, which showed how evident this gap was. As stated by teachers, L2 research generally tended to be inadequate in addressing their needs and problems. Indeed, they made some suggestions to bridge the gap between research and practice, such as research offering practical advice on teaching issues and beginning investigations within the classroom rather than imposing external solutions.

In the Chinese context, Gao, Barkhuizen, and Chow (2011) conducted a study with the participation of 33 Chinese primary school English teachers. The study focused on participants' conceptualization of research and what motivated them to engage in such an endeavor. Teachers primarily viewed research as experimental teaching methods and the only scenario they agreed on and viewed as research was comparative studies of teaching methods. Many teachers defined research as setting up experimental classes that included games or task-based teaching to try out innovative techniques. For primary school EFL teachers, research was not only a PD activity but also a means of gaining professional recognition. Teachers' motivation to conduct research was primarily driven by two objectives: the first was to enhance their professional skills and knowledge in order to improve their teaching and students' learning, and the second was to meet the standards of their status, which were evaluated by institutions through top-down performance reviews.

Also, teachers from rural areas reported a lack of confidence in their research knowledge and English competence, and these barriers made it difficult for them to engage in research.

Another study in the Chinese context was conducted by Borg and Liu (2012), which involved 725 College English Teachers (CETs). The study focused on CETs' engagement *with* and *in* research, reasons for their research engagement level, and lastly research culture in their workplace. Key findings indicated that CETs demonstrated only moderate levels of engagement *with* and *in* research. Factors influencing their engagement are as follows: first, personal factors such as competing professional and family responsibilities (especially for female teachers); second, external motivations like promotion which causes discouragement for collaborative research; and third, institutional factors such as a lack of research time incorporated into their workloads. Besides limited knowledge of research, lack of intrinsic motivation, and general disinterest served as significant barriers. The study concludes by highlighting a crucial point: that research engagement, beyond just technical knowledge and skills, can also be influenced by various personal factors.

In the Middle Eastern context, Alhassan et al. (2020) explored the research perceptions and engagement (with and in) of 20 Omani EFL teachers working at two English-medium higher education institutions (HEIs) in Oman. Results indicated that Omani EFL teachers had different views on what "research engagement" means; however, they had a strong awareness regarding the benefits of research particularly in enhancing pedagogical knowledge, allowing for the comparison of classroom practices, and providing practical advice for classroom problems. Although teachers engage with research to some extent, they still face challenges, including institutional factors such as lack of resources, support, and an established research culture, as well as personal factors like motivation, awareness, and lastly educational policy-related factors.

In the Iranian context, a study carried out by Mehrani (2016) with the participation of 24 Iranian teachers investigated how Iranian EFL teachers conceptualize research by examining the characteristics of educational research and qualities of good research, based on their views. Results revealed that teachers considered previously formed research questions, defined objectives, rigorous data collection processes, a large sample of participants, and the use of statistics in analyzing results as key elements of research. Namely, they have a standard view of research that is limited in nature. Furthermore, teachers expect educational research to focus on practical issues and have pedagogical implications as they believe some

studies focus on issues that are unrelated to language classrooms. Teachers also tend to view research as a process that generates new knowledge and explores new pedagogical options. Similarly, Sadeghi and Abutorabi (2017) conducted a study in the Iranian context with a total of 100 EFL teachers' participation. The primary focus of the study was to investigate EFL teachers' views on research, their conception of research, and the reasons they cite for being engaged in and with research or not. Indeed, their view of research aligned closely with the findings of Mehrani's (2016) study. It was observed that teachers' views on research were very close to traditional notions of scientific inquiry, and they reported low levels of research engagement. Teachers listed lack of time, access to books and journals, lack of funding, and practical relevance as the main reasons preventing them from being involved in research.

Following this, Rahimi and Weisi (2018) investigated 150 EFL teachers' perceptions of research towards the influence of research practice on their professional teaching practices. The participants who were from various countries were teaching general English courses to adult learners at a private institution. The results indicated that teachers were engaged in and with research to some extent, yet they were more engaged with reading research than doing research. They held positive attitudes toward the impact of research on their professional performance. They reported that their teaching performance and problem-solving skills were improved, and research engagement enhanced their collaboration with colleagues, through sharing teaching and learning-related issues with each other. Furthermore, teachers mentioned a great increase in their self-confidence thanks to research practice. Yet, they stated some setbacks and challenges that prevent them from effectively engaging *in* research practice. The most significant barrier that hindered teachers' research engagement was receiving little to no support from their institution.

In the Indonesian context, Puspitasari et al. (2021) explored the level of Teacher Action Research (TAR) engagement among 33 secondary school EFL teachers and factors encouraging them to carry out TAR. Teachers reported high levels of engagement *with* and moderate levels of engagement *in* research. The main motives of engagement *in* research included career development and improving classroom practice. The results of the study revealed that motivation, self-efficacy beliefs, institutional support, and academic collaborations were critical for sustained engagement. Also, teachers mentioned the increase in their awareness of their students' characteristics, development in their knowledge of effective learning, and strength in their reflective teaching skills. The study suggested that TAR is a model that can help EFL teachers develop both pedagogically and professionally.

Different from the previous study, Agbayahoun (2016) reported that although these teachers frequently participate in teacher development activities, they do not develop their skills in practice and action, as these activities are organized as top-down, one-off workshops. In her study, she surveyed 157 secondary school EFL teachers in the Republic of Benin on their views regarding PD. More importantly, activities such as action research or reading research findings in the field were unfamiliar to them. They also admitted that they did not have enough knowledge about issues that required self-initiative and autonomy in teacher development activities. However, they expressed interest in learning and trying out action research in their classrooms.

In the Turkish context, Beycioğlu et al. (2010) undertook research with 250 Turkish high school teachers who were attending a compulsory in-service education at a state university in Malatya, Türkiye. The study sought to understand teachers' views regarding educational research. The majority of the participants (N = 170) valued educational research findings since they first qualified as teachers; however, almost one-third of them stated that they had never been interested in research from the beginning of their careers. Later, they were asked about the resources they rely upon to learn about educational research and the most common answers were journal articles (28.2%) and books (18.8%). The study also investigated whether there were differences in views on the value of educational research based on gender and teaching experience and findings indicated that there is no significant relationship in either case.

Furthermore, in the literature, various studies have been conducted to increase teachers' participation in research (e.g., Al-maamiri et al., 2017; Atay, 2008; Çelik and Dikilitaş, 2015; Görsev Boran, 2018; Wyatt, 2011). To illustrate, Al-maamiri et al. (2017) examined 24 EFL teachers' perceptions and experiences about the Research Support Program. Teachers criticized the type of research model which imposes a top-down approach to research and considered these types of initiatives not adequate to motivate teachers to engage in research. Therefore, different from the previous models, this research support program employed a bottom-up and practitioner-based approach to encourage TR engagement. According to the findings, the RSP positively impacted EFL teachers, with 100% satisfied it exists and 92% seeing it as essential for supporting EFL research. Also, the results proved successful that teachers became autonomous in initiating and leading a research study through the support they received throughout the program. Teachers faced some contextual barriers such as time challenges, heavy workload, access to research resources and insufficient research

knowledge, however, the institution supported teachers by providing time off for research, workshops on research methods, and access to resources and incentives.

In the Turkish context, Atay (2008) carried out a six-week research-oriented INSET program to examine the research experience of Turkish in-service teachers. 62 teachers became volunteers to take part in the program which consisted of three main parts: theoretical knowledge on ELT, issues for investigation, and examining the classroom and conducting research. Different from the previous programs, the teachers were supported in terms of theoretical knowledge and guidance for how to reflect, collaborate, and do research. Despite the difficulties experienced by teachers, positive effects of research engagement such as improvement in research skills, enhanced awareness about the teaching and learning process, refreshed dedication to teaching, and cooperation with colleagues were evident in teachers' PD. Although teachers experienced some challenges like feeling lost during some stages of the process, they recognized the value of taking a critical stance on their practice and collaborating with colleagues as a way to enhance their classroom practices.

In a similar study, Çelik and Dikilitaş (2015) implemented a study in the same context through a guided action study project with the involvement of twenty-five university-level EFL teachers, mostly Turkish, along with participants from other nationalities. The teachers were required to observe their classroom problems and provide solutions accordingly. In the end, teachers' awareness of action research has increased, and they developed their practical skills, gained a deeper knowledge, and became more enthusiastic about PD thanks to their research engagement. However, they also experienced setbacks, similar to those voiced in other studies, such as lack of time and research knowledge. Different from the other studies, they mentioned a lack of self-confidence and difficulty in maintaining a critical stance throughout the process.

Distinct from prior research, Sönmez Boran (2018) investigated seventeen non-native English as a Foreign Language (EFL) teachers' motivation and efficacy after completing an INSET course to see if there were any differences in participants' motivation for research and levels of efficacy in research. This study took place as part of the M.A. in TEFL program at a private university in Türkiye, all the participants were in-service teachers. Participants mostly cited finding solutions for their problems, improving their practice, adjusting teaching materials, investigating problems in the field, and discussing findings with their colleagues as the main motivating factors. On the other hand, lack of administrative support, loaded schedules, issues related to school culture, and inflexible curriculums were among

the demotivating factors. Consequently, the findings demonstrated that teachers' efficacy for research engagement experienced a significant change; however, no statistically significant change was observed in their motivation levels. Nevertheless, they started to perceive research as a form of PD.

Wyatt (2011) integrated an in-service research course to support teachers' research engagement. This small-scale study which involved 4 EFL teachers revealed that engagement *in* research provides teachers with many benefits such as recognizing their own success in helping others, developing research skills, and the rewarding and motivating aspects of the research experience. Additionally, teachers demonstrated greater self-confidence and autonomy in various areas of their work after their engagement.

When the studies in literature are examined, it is seen that the focus is generally on how teachers conceptualize research, their motivations for engagement, and the contextual or institutional factors affecting their research involvement. According to the literature, teachers tend to have moderate levels of research awareness, and they recognize the importance and benefits of research in their profession. However, they mostly lack theoretical and practical research knowledge and institutional support from their schools. Also, since they consider research as a top-down approach, they were concerned about the applicability of research into a real classroom environment. Furthermore, findings indicate that INSET research support programs offer many opportunities for in-service teachers. These programs help teachers to gain more awareness, self-efficacy in research, and theoretical and practical knowledge for both research and their classrooms through engagement *in* research. Although these studies provide us with comprehensive information about teachers' research engagement, they cannot fully explain the reasons for differences in the level of research engagement. Contextual or institutional reasons alone are not sufficient to provide a complete explanation. Therefore, it is essential to move beyond these aforementioned factors.

To illustrate, Bahrami and Hosseini (2023) provide a unique perspective by addressing the topic of individual differences in Teacher Research Involvement (TRI), which has scarcely been studied in this field. What sets this study apart is its examination of the relationship between TRI, Big Five personality traits, and motivation to conduct research which offers a new perspective compared to other studies that often attempt to explain research involvement through contextual factors. The study took place in the Iranian context where 253 Iranian school English teachers participated. The findings of the study revealed that

certain personality traits such as Openness to Experience, Conscientiousness, Agreeableness, and Neuroticism were significant predictors of the motivational constructs, which in turn predicted TRI. Based on these results, the study suggests that TR studies in literature should move beyond contextual factors and focus more on individual differences.

In summary of the points made so far, many studies have shown that TR provides various benefits to in-service teachers. The literature has focused mainly on teachers' understanding of research, the benefits of research engagement, and the contextual reasons that influence their participation in research. However, previous studies have rarely considered other predictors such as self-efficacy, personality traits, and critical thinking dispositions. Examining these factors can contribute to our understanding of whether personality traits, self-efficacy, and critical thinking dispositions predict teachers' research engagement and, if so, to what extent they do so.

CHAPTER III

METHODOLOGY

This chapter presents details of the research methodology employed to answer the research questions of the study. It first provides a detailed description of the design, setting, and participants, later detailing the methods and procedures used to gather and analyze data elicited through a variety of instruments.

3.1. Design

The study employed a cross-sectional mixed-methods descriptive correlational design approach, combining both quantitative and qualitative research methods to examine the breadth and depth of EFL teachers' research involvement and its potential relation to individual factors such as research self-efficacy, personality traits, and critical thinking dispositions.

A simple definition put forward for a mixed methods study is that it is a type of study in which both quantitative and qualitative data are combined (Bergman, 2008). Tashakkori and Creswell (2007) offer a more comprehensive definition by stating that “research in which the investigator collects and analyzes data, integrates the findings, and draws inferences using both qualitative and quantitative approaches in a single study or program of inquiry” (p. 4). Besides, as highlighted by Duff (2010), a mixed-methods research design can serve as a great tool in the triangulation of findings and identification and interpretation of rich points in the study. Considering the research questions and the advantages offered by the mixed research design such as triangulation of the data and identification of valuable points, this design was considered to be the most appropriate and effective method in the context of the study and was therefore preferred.

Meanwhile, to examine and document in-service EFL teachers' research engagement (Fraenkel et al., 2022) as well as to establish possible associations between variables (Migiro et al., 2011) a descriptive design was adopted. Descriptive research primarily seeks to systematically and clearly represent the current state of the phenomenon being studied

through employing tools such as tests, questionnaires, interviews, and so forth (Atmowardoyo, 2018).

On the other hand, to investigate the relationship between individual differences—such as research self-efficacy, personality traits, and critical thinking dispositions—and research engagement, as well as the interrelationships among these variables themselves, a correlational study design, which is a subtype of descriptive research design, was preferred. This design was chosen “to determine the existence and strength of a relationship between two or more variables” (Mackey and Gass, 2022, p. 465). The type of design in which correlational statistics are utilized to describe and measure the relationship between two or more variables or sets of scores and the strength of this relationship is called a correlational design (Creswell, 2012). In line with the objectives of the study, a correlational design was chosen as an appropriate method to reveal the effects of a number of individual variables on teachers’ research engagement.

3.2. Setting and Participants

Participants consisted of purposefully sampled 40 in-service EFL teachers. In this study, this sampling method was preferred since the participants were required to have certain knowledge and experiences. Therefore, participants were purposefully selected from in-service EFL teachers who had taken “Research Methods in Education” course during their undergraduate teacher training years at a state university in Türkiye and had conducted research within the scope of this course. At the beginning of the questionnaire, participants’ research experience was verified through a question asking whether they had taken a research methods course and conducted a small-scale study. Those who answered “yes” were accepted as participants. This selection was made in order to focus on individuals who could answer the questions targeted by the research and provide in-depth knowledge of relevant topics. Thus, including only teachers with these characteristics in the scope of the research aims to increase the validity of the research and the depth of the data obtained. Therefore, only teachers who graduated from the relevant department of the same university were specifically preferred. Participants who graduated from different universities were not included, as this could have introduced various variables that might have intervened with the study’s results. With this selection, the aim was to examine how teachers’ undergraduate

research experience is reflected in their professional practices during their service, through examining their research engagement (both *with* and *in* research). That is to say, the primary aim of this study was to determine the types of practices that teachers with research experience currently implement in their professional lives. Also, another reason to select participants from in-service teachers who had previously engaged in undergraduate research projects during their teacher education program was to reduce sample bias and enhance the reliability of the research findings (Creswell and Creswell, 2017; Fowler, 2013).

The participants of the study were in-service teachers who graduated from a four-year English Language Teaching (ELT) program at a state university where the medium of instruction is English. The program equips students with the necessary theoretical and practical knowledge to teach English as a foreign language. Throughout the undergraduate program, students receive comprehensive training in areas such as English language teaching, linguistics, language acquisition, educational psychology, as well as measurement and evaluation. As a part of the program, students have the opportunity to practice their theoretical knowledge in schools affiliated with the Ministry of National Education of the Republic of Türkiye in the Teaching Practice I and II courses offered in the 7th and 8th semesters. They can use the teaching practice experience they have gained in their professional lives and take part in various positions in the education sector. The competencies for English language teachers in this program include:

- **Autonomy and Responsibility:** Using intercultural communication, fostering critical thinking, and training students for effective communication.
- **Learning Competency:** Encouraging self-regulation, critical thinking, and practical use of foreign language in various contexts.
- **Communication and Social Competency:** Applying knowledge to solve problems, establishing professional communication, and keeping up with innovations.
- **Field-Specific Competency:** Planning lessons according to learner needs, analyzing and adapting programs, and designing effective assessments.

This information has been summarized from the new curriculum of the Department of English Language Teaching at Sakarya University, specifically focusing on the program outcomes, as presented on the university's website. In addition, these pre-service teachers are exposed to research methodologies and have opportunities to conduct research during their undergraduate studies. The aim of the "Research Methods in Education" course which was taken by the participants of this study during their undergraduate education is to provide

students with theoretical knowledge about the concept of scientific research and the various principles, methods, and stages of such research, as well as to teach them how to conduct a scientific study by doing a small-scale research project. Having this small-scale research experience was also an important criterion in participant selection. During their undergraduate education, the participants covered the following topics within the scope of the course “Research Methods in Education”:

Basic concepts and principles related to research methods, access to articles, etc., basic paradigms in scientific research, quantitative and qualitative research designs, sampling, data collection, data analysis, validity and reliability of research, reviewing, evaluating, and presenting articles or theses, and preparing a research report in accordance with research principles and ethics.

Information regarding participants’ demographics is provided in Table 1.

Table 1

Participant Demographics

Variable	Category	n (%) / Mean (SD)	Min - Max
Age (Years)	—	26.60 (3.02)	22 - 35
Teaching Experience (Years)	—	3.33 (2.41)	0 - 9
Gender	Male / Female	9 (22.5%) / 31 (77.5%)	—
Latest Degree	B.A. / M.A.	39 (97.5%) / 1 (2.5%)	—
Teaching Setting	State School	16 (38.1%)	—
	Private School	16 (38.1%)	—
	Private Tutor	2 (4.8%)	—
	Not Teaching	6 (14.3%)	—
Grade Levels	Primary School	15 (35.7%)	—
	Middle School	8 (20.0%)	—
	High School	10 (23.8%)	—
	University	3 (7.1%)	—

Note. Age and teaching experience are presented as mean (M) and standard deviation (SD), with minimum and maximum values. Categorical variables (e.g., gender, latest degree, teaching location, and grade levels) are reported as frequency (n) and percentage (%). *SD* = Standard Deviation.

Table 1 summarizes the demographic characteristics of the participants. The mean age of the participants was 26.60 years, with ages ranging from 22 to 35 years. The average teaching experience was 3.33 years, with experience levels ranging from 0 to 9 years. In terms of gender, the minority of participants were male, while the majority of the participants were females. Regarding the highest degree obtained, most of the participants held a bachelor's degree (97.5%), and only 2.5% held a Master of Arts (M.A.) degree. Participants' teaching settings were as follows: 38.1% taught at state schools, 38.1% taught at private schools, 4.8% worked as private tutors, and 14.3% were not currently teaching. As for the grade levels taught, 35.7% of participants taught primary school, 20.0% taught middle school, 23.8% taught high school, 7.1% taught at the university level, and 9.5% were not teaching any grade level at the time of the study.

3.3. Data Collection Instruments

The data for this study were obtained from both quantitative and qualitative data collection instruments. Quantitative data were elicited through four data collection tools, namely a questionnaire and three scales: 1) the English Language Teachers' Views of Research Questionnaire (Borg, 2009) (see Appendix C), 2) the Comprehensive Research Self-Efficacy Scale (C-RSES) (Taş et al., 2023) (see Appendix E), 3) the Big Five Inventory–2 (BFI-2) (Soto and John, 2017) (see Appendix F), and 4) the Marmara Critical Thinking Dispositions Scale (MCTDS) (Özgenel and Çetin, 2018) (see Appendix G). Meanwhile, qualitative data were collected through open-ended questions (see Appendix D) developed by the researcher. As Duff (2010) emphasized earlier, a mixed-method study allows for enhanced triangulation of the findings and aids in identifying and interpreting “rich points” in research, which is a concept she borrowed from Hornberger (2006). Therefore, eliciting qualitative data was essential in strengthening the validity and reliability of the study.

3.3.1. English Language Teachers' Views of Research Questionnaire

To investigate the research engagement of in-service EFL teachers, the English Language Teachers' Views of Research Questionnaire (see Appendix C) developed by Borg (2009) was adopted for this study. The questionnaire is a tool that is widely used in literature and has been proven to be a valid and reliable tool by various studies across different contexts. Similar to this study, it is particularly preferred in many studies which aim to investigate teachers' research engagement. In addition, the widespread use of this questionnaire has an important advantage in terms of being able to compare the findings with other studies. Considering all these reasons, the utilization of this questionnaire in the study was both an appropriate and necessary choice.

The original questionnaire consisted of six sections (i.e., Section 1: scenarios, Section 2: characteristics of good quality research, Section 3: research culture, Section 4: reading research, Section 5: doing research, and Section 6: demographic information). However, for the purposes of this study, only two of these sections were employed: section 4 (reading research) and section 5 (doing research), which contained a total of seven items. The remaining sections (i.e., scenarios, characteristics of good quality research, research culture, and demographics) were not included, as they did not align directly with the objectives of this study. Additionally, as multiple instruments were already employed in the research, incorporating additional items could have increased the burden on participants, and led to fatigue or reduced quality of responses. Thus, it was decided to exclude these sections to ensure that the questionnaire remained concise and was relevant to the research objectives.

In the first section of the adopted questionnaire, participants are asked to rate their engagement *with* (i.e., reading research). If they are engaged with research, they are invited to state what kind(s) of materials they read and the perceived influence of their reading on their teaching practices. If they state they do not read, they provide reasons that prevent them from reading research.

Similarly, the second section of the questionnaire deals with participants' engagement *in* research (i.e., doing research). If they are engaged *in* research, respondents are asked to explain their motivations for doing research, whereas if they are rarely engaged or not engaged at all, they provide the reasons for their disengagement *in* research. However, it is also worth noting that before questioning teachers about their research engagement, both in

terms of reading and conducting research, they were provided with a clear and concise definition of TR as proposed by Borg (2009) who defined TR as a “systematic, rigorous enquiry by teachers into their own professional contexts” (p. 377). Additionally, the distinction between engagement “*with*” research and “*in*” research was clarified, where the former refers to reading research, while the latter refers to conducting research. This step was taken to minimize potential misunderstandings and align their understanding of research with the definition used in this study.

3.3.2. Comprehensive Research Self-Efficacy Scale (C-RSES)

To examine the research self-efficacy levels of teachers, the Comprehensive Research Self-Efficacy Scale (C-RSES) (see Appendix E) developed by Taş et al. (2023) was employed. The main features that distinguish this scale from the others are the specific criteria it measures and the participants it addresses. This scale was originally designed for graduate students and academics (Taş et al., 2023), but its broad applicability across various disciplines makes it relevant for this study, which involves undergraduate graduates. Most of the scales in the literature, such as the Research Self-Efficacy Scale (RSES) by Greeley et al. (1989) and the shortened version of the Self-Efficacy in Research Measure (SERM) by Kahn and Scott (1997), were specifically designed to assess the self-efficacy levels of doctoral students from various fields. In contrast, the C-RSES is more suitable for the participants of this study, for it was developed to be applicable to a broader range of academic levels. On the other hand, certain scales, such as Philip and Russell’s (1994) Self-Efficacy in Research Measure (SERM), were limited due to their design being tailored to a specific discipline (i.e., counseling psychology) and their focus on doctoral students. A few other scales were also created to measure particular professions, including social workers (e.g., Holden et al., 1999), physician-scientists (e.g., Mullikin, Bakken, and Betz, 2007), nurses (e.g., Swenson-Britt and Berndt, 2013), librarians (e.g., Brancolini and Kennedy, 2017), and aspiring teachers (e.g., Tuncer and Ozeren, 2012). Due to its unique features, including its broader applicability across various academic levels and disciplines, as well as being up-to-date and recently validated, the Comprehensive Research Self-Efficacy Scale (C-RSES) is considered an appropriate and effective data collection tool for this research.

The scale consists of 28 items and six factors: Literature Review and Research Problem (8 items), Discussion (5 items), Data Analysis (3 items), Research Plan (6 items), Research Ethics (4 items), and Conceptual/Theoretical Framework (2 items). Participants are required to indicate how competent they consider themselves and their knowledge of research. The items in the scale are rated on a 5-point Likert-type scale, where “1” represents “Strongly Disagree” and “5” corresponds to “Strongly Agree”. According to the findings of reliability analysis, the scale demonstrated high internal consistency with values for Cronbach’s alpha ranging from .85 to .94 (Taş, Demiral-Uzan, and Uzan, 2023). This high level of reliability has also provided a strong justification for using this scale as an appropriate tool for this research. Building on prior reliability studies, Cronbach’s Alpha was calculated to assess the reliability of the Research Self-Efficacy Scale used in the study. Overall, the Cronbach's Alpha value of the scale was 0.972, which illustrated that the scale has high internal consistency.

The scoring system of the scale used to evaluate various research skills of the participants is as follows: Maximum score is 40 points for the Literature Review and Research Problem factor, 25 points for the Discussion factor, 15 points for Data Analysis, 30 points for the Research Plan, 20 points for Research Ethics, and 10 points for the Conceptual Framework. The total score of the scale can range from a minimum of 28 points to a maximum of 140 points.

Additionally, the scale does not contain any reverse-coded items, suggesting that all items are scored in the same format. Furthermore, it does not provide a predefined scoring range to categorize responses into specific levels. Yet, higher scores on the scale indicate a higher level of research self-efficacy, while lower scores reflect a lower level of research self-efficacy among participants.

3.3.3. The Big Five Inventory–2 (BFI-2)

To investigate teachers’ personality traits, the Big Five Inventory-2 (BFI-2) (see Appendix F) was utilized in this study, which is an instrument that is designed by Soto and John (2017) to assess the Big Five personality domains (labeled as Extraversion, Agreeableness, Conscientiousness, Negative Emotionality, and Open-Mindedness) along with 15 more specific facet traits. This scale was initially designed by Soto and John (2017) to eliminate

the weaknesses of previously developed scales and create a more up-to-date measurement tool. One of the tools that was used most frequently in literature was the Big Five Inventory developed by John, Donahue, and Kentle (1991). In the following 25 years since the development of the BFI, significant advances have been made in the field and understanding of personality structure and psychological assessment have undergone changes. Therefore, the BFI-2 was developed to incorporate these advancements into the original BFI and resolve measurement issues, resulting in the development of the Big Five Inventory-2 (BFI-2) (Soto and John, 2017). Additionally, shorter versions of the BFI-2, such as the BFI-2-S and BFI-2-XS, are also currently available, offering a reduced number of items. Although the shorter versions of the personality test could have reduced the burden on participants, they were not preferred due to their lower reliability and validity compared to the full BFI-2 scale (Soto and John, 2017). Also, using shorter forms often requires larger sample sizes to maintain adequate statistical power, which was not feasible given the scope and resources of this study. Thus, the BFI-2 was preferred considering reasons such as the scale being up to date, offering higher reliability compared to other scales and versions, and the number of items being appropriate and reduced. The five-domain scale had alpha reliability of at least .83 in the Internet sample and .85 in the student sample indicating a high internal consistency (Soto and John, 2017). Retest reliability in the student sample was at least .76. The Alpha reliabilities for the 15 facet scales ranged from .66 to .85 in both samples. The average reliability was .76 in the Internet sample and .77 in the student sample. Additionally, the retest reliability of the facet scales in the student sample ranged from .66 to .83, with an average of .73 (Soto and John, 2017). This criterion, namely high reliability, was decisive in selecting this scale as a suitable measurement tool for this research. To complement previous reliability analyses, the current study also evaluated the reliability of the BFI-2 personality test by calculating Cronbach's Alpha. The results of the reliability analysis indicated that the BFI-2 scale exhibited an acceptable level of consistency, with a Cronbach's Alpha value of 0.831, ensuring its suitability for the current study.

The BFI-2 consists of 60 items and participants are required to indicate the extent to which they agree or disagree with various characteristics that may or may not apply to them. The following statement can be an example: "Are you someone who *likes to spend time with others?*" and respondents are asked to select a number for each statement based on their level of agreement, where 1 indicates strong disagreement and 5 indicates strong agreement. Among the available scales, this tool was chosen as the most suitable for the study due to its

up-to-date nature, high internal consistency, and its design aimed at addressing the limitations of earlier scales and versions.

The scoring system of the BFI-2 regarding personality domains is structured as follows: Each domain (i.e., Extraversion, Agreeableness, Conscientiousness, Negative Emotionality, and Open-Mindedness) consists of 12 items. The maximum score for each domain is 60 points, while the minimum is 12 points. Reverse-coded items (i.e., 11R, 16R, 26R, 31R, 36R, 51R, 12R, 17R, 22R, 37R, 42R, 47R, 3R, 8R, 23R, 28R, 48R, 58R, 4R, 9R, 24R, 29R, 44R, 49R, 5R, 25R, 30R, 45R, 50R, 55R) are adjusted to ensure accurate scoring. In total, respondents can score between a minimum of 60 and a maximum of 300 points across all five domains, depending on their responses.

3.3.4. Marmara Critical Thinking Dispositions Scale

The Marmara Critical Thinking Dispositions Scale (MCTDS) (see Appendix G) developed by Özgenel and Çetin (2018) was adopted to identify participants' critical thinking tendencies. This scale was originally developed in Turkish with the aim of measuring the general critical thinking tendencies of teachers and administrators in a valid and reliable manner. The scale has an overall reliability coefficient (Cronbach's alpha) of 0.91, indicating a high internal consistency (Özgenel and Çetin, 2018). The high internal consistency reliability and strong content validity were the key reasons for selecting this scale as a reliable and valid tool to assess the critical thinking dispositions of in-service teachers in this study. In addition to the high-reliability results obtained from the original study, the current study also assessed the reliability of the MCTDS by calculating its Cronbach's Alpha value. The obtained value was 0.949, revealing a high level of internal consistency. Overall, the results suggest that the scale is reliable, and the items are well-aligned with the intended construct it aims to measure. When examined in terms of validity, it was noticed that it was supported by strong content validity, solid construct validity proven by factor analysis, and significant criterion-related validity by correlation analysis.

The scale comprises 28 items and six sub-dimensions: Reasoning (items 1-6), Reaching Judgements (items 7-12), Searching for Evidence (items 13-16), Searching for Truth (items 17-20), Open-Mindedness (items 21-24), and Systematicity (items 25-28). Participants were asked to rate each item on a 5-point Likert-type scale, where "1" represents "Never" and "5"

stands for "Always". The MCTDS scores range from a minimum of 28 to a maximum of 140 points, with higher scores indicating that participants have a greater tendency to think critically. The sub-dimensions of Reasoning and Making Judgements are worth 30 points each, meanwhile, the remaining four categories, such as Seeking evidence, Seeking the truth, Open-mindedness, and Systematicity, are worth 20 points each. As a respondent's score on the scale increases, their disposition for critical thinking also increases.

3.3.5. Open-ended Questions

A total of four open-ended questions (see Appendix D) were developed by the author to support the results elicited from quantitative data and obtain an in-depth understanding of the participants' views. Open-ended questions can be considered as an opportunity for participants to express their feelings, views, and experiences in their own words without adhering to restricted question patterns, which may result in more unanticipated and insightful responses (Mackey and Gass, 2022). Due to the advantages it offers in terms of flexibility and depth of response, open-ended questions were preferred for this study. The open-ended measurement tool was developed following several important stages:

To begin with, considering the purpose and scope of the research, the literature was reviewed, and the open-ended questions were created accordingly. In this case, the questions were designed to include what, how, and why questions, allowing the participants to express their opinions or ideas. Later, to ensure the reliability and validity of the open-ended questions, expert opinions were requested from three experts in the field, all of whom hold Ph.D. degrees in education. Because an important approach to ensure the validity of the study is to have experts on the subject review the instrument, they can use their own judgment to determine ways to define and operationalize the structure and contribute to ensuring the validity of the study by stating whether they believe each item measures what it is intended to measure (Colton and Covert, 2007). Feedback and corrections from experts were taken into consideration and necessary adjustments were made before administering the open-ended questions. For example, the language of the questions was adjusted to a level that the target audience could understand, making them clearer. Similarly, based on the feedback obtained from the pilot study, necessary modifications were implemented to enhance the clarity and effectiveness of the open-ended questions.

3.4. Piloting the Instruments

A pilot study was conducted with four in-service EFL teachers to assess the clarity and appropriateness of the instruments, including the questionnaire, scales, and, open-ended questions. The instruments were shared via Google Forms, enabling participants to complete them online. Piloting is essential in testing, revising, and finalizing a material or method, and allowing researchers to discover any issues and deal with them before administering it to the participants of the research (Mackey and Gass, 2022). They emphasized the importance of it in one of their earlier studies (Gass and Mackey, 2017) as well by stating that pilot testing can help detect and correct costly and time-consuming problems in data collection and ensure the preservation of data that is highly valuable, useful, and often irreplaceable for the research. According to the feedback received from the pilot study, certain adjustments were made to prevent any misunderstanding or lack of clarity. Once all revisions were finalized, the instruments were administered to the participants.

3.5. Data Collection Procedures

The research process began with obtaining approval from the Sakarya University Ethics Committee to ensure the study adhered to ethical guidelines and principles. At the outset of the data collection process, participants were informed about the details regarding the purpose and scope of the study. They were assured that their identities would remain anonymous, and they provided their consent by signing informed consent forms. Subsequently, the target participants, who were graduates of a particular state university and are now in-service teachers, were contacted through alumni networks and email invitations. These invitations included information about the study and instructions for participation.

To facilitate data collection, an online questionnaire designed using Google Forms, which included both quantitative and qualitative items, was shared via email to ensure easy access and participation. Participants were given sufficient time to complete and submit their responses to the online data collection tool at their convenience.

Upon completion of data collection, the responses exported from Google Forms to Excel were cleaned and then transferred to SPSS (Statistical Package for the Social Sciences)

software for statistical analysis. The collected quantitative data were analyzed using appropriate statistical methods, while the qualitative responses were subjected to thematic analysis to identify key themes and patterns that emerged from the open-ended questions. The findings were interpreted in line with the research objectives and reported in the findings, discussion, and conclusion sections.

3.6. Data Analysis

As the data for this study were collected through both quantitative and qualitative instruments, they were subjected to various analysis procedures. To begin with, quantitative data elicited from questionnaires and scales were transferred into the SPSS 21.0 program to perform statistical analyses. Prior to conducting the descriptive and inferential tests, a Shapiro-Wilk test was performed to evaluate the assumption of normality, where it was yielded that the data did not meet the assumption of normality ($p < .05$) (Field, 2009). Following the normality test, descriptive statistical analyses were conducted to address the first research question (RQ1) and its subquestions regarding Turkish EFL teachers' engagement *with* and *in* research, as well as the second research question (RQ2), which examines in-service EFL teachers' personality traits, critical thinking dispositions, and research self-efficacy levels. These analyses included descriptive statistics such as frequencies, percentages, means, and minimum and maximum scores. By checking the means and standard deviations of participants' responses to the items, their research engagement, research self-efficacy, personality traits, and critical thinking dispositions were identified. Also, before running the statistical tests data elicited via each instrument was prepared for analysis.

First, the research engagement variable was categorized into two groups (low and high engagement) for analysis. Participants who reported engaging *in* research "sometimes" or "often" were classified as the high engagement group, while those who indicated "never" or "rarely" were placed in the low engagement group. Following this, mean and total scores for the Research Self-Efficacy Scale and its factors, as well as for the Critical Thinking Disposition Scale and its sub-dimensions, were calculated according to the scoring guidelines of the respective instruments.

For the BFI-2, reverse-coded items were first adjusted to ensure clarity in the results. Participants' personality traits were then categorized based on their dominant traits, with each participant assigned a primary personality trait according to the highest score across all domains. In cases where multiple traits had the same highest score, a secondary decision rule was applied by examining the distribution of scores and, when necessary, using additional statistical criteria (e.g., mean comparison) to determine the most representative trait. This method was employed to ensure systematic and accurate categorization.

After preparing the data, several analyses were conducted to address the research questions. To examine the relationship between categorical variables such as research engagement (low and high groups) and personality traits (RQ2.2), a Chi-Square Test was utilized (McCormick and Salcedo, 2015). Additionally, to assess the differences between the two independent groups—low and high research engagement groups—on continuous variables such as research self-efficacy (RQ2.1.a) and critical thinking dispositions (RQ2.1.b), a Mann-Whitney U test was applied. This test was selected as the non-parametric alternative to the independent samples t-test due to the violation of the normality assumption (Pallant, 2020). Finally, to explore the relationships among personality traits, critical thinking dispositions, and research self-efficacy (RQ2.2), a Spearman correlation analysis was performed.

Regarding the analysis of the qualitative data which came from open-ended questions, Thematic analysis (TA) was used. The analysis process of the study is positioned within a constructivist paradigm (Lincoln and Guba, 1985), as it acknowledges that meaning is actively constructed rather than objectively uncovered. TA was performed following Braun and Clarke's (2006) TA framework, which offers a flexible and structured framework for identifying, analyzing, and presenting patterns in qualitative data. The analysis followed an inductive approach, which means that themes were generated from the data itself rather than being defined beforehand. This approach was particularly chosen to ensure that the analysis remained focused on the perspectives and views of the participants.

To prepare the data for coding, the responses from the participants were initially collected and organized into an understandable and analyzable format to make the comparison process easier. TA was conducted systematically to explore and identify recurring patterns and themes in the responses regarding the research engagement of in-service EFL teachers and the reasons and motivations behind their level of engagement. As suggested by Clarke and Braun (2016), the TA process was carried out by the author and another coder to ensure reliability. It began with the author and the other coder familiarizing themselves with the

data. Next, initial codes were generated based on the responses to the relevant research questions. These codes were then grouped to form preliminary themes, which were subsequently reviewed and refined for consistency and coherence. Finally, the themes were defined and named to accurately reflect their core ideas and provide an in-depth understanding of the participants' views.



CHAPTER IV

FINDINGS

In this chapter, the findings from both the quantitative and qualitative data are presented. First, the results related to teachers' research engagement (both in and with research) are detailed, followed by their detailed responses to the open-ended questions. The chapter then presents the findings from the scales used in the study to assess research self-efficacy, personality traits, and critical thinking dispositions.

4.1. The Findings of the English Language Teachers' Views of Research Questionnaire

The questionnaire focuses on two aspects: engagement *with* research and engagement *in* research. The following section begins with findings related to their engagement *with* research, followed by their engagement *in* research, including additional details about their involvement.

4.1.1. Findings Related to Participants' Engagement *with* Research

Considering Research Question 1 (RQ1), which sought the participants' research engagement, the findings offer an overview of their levels of engagement, the resources they consult, and the influence of these readings on their practices. The section then continues by presenting the reasons for their disengagement. Descriptive statistics related to participants' engagement levels with research are presented in Table 2.

Table 2

Frequency of Engagement with Research (i.e., Reading)

Engagement Level	Frequency	Percentage (%)
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Never	1	2.5%
Rarely	20	50%
Sometimes	12	30%
Often	7	17.5%
Total	40	100%

As seen in Table 2, participants were surveyed about how frequently they engaged with research, half of the participants stated rare engagement *with* research, whereas almost one-third reported engaging occasionally. Additionally, a small proportion (17.5%) of participants reported frequent research engagement, and very few (2.5%) indicated no engagement at all.

The frequency analysis of what participants read as part of their research engagement is demonstrated in Table 3.

Table 3

Descriptive Statistics of What Participants Read

Type	M	SD	Frequency	Percentage
Web-based sources of research	.95	.229	18	45%
Professional Journals (e.g. ELT Journal)	.74	.452	14	35%
Academic Journals (e.g. TESOL Quarterly)	.63	.496	12	30%
Books	.21	.419	4	10%
Professional Magazines (e.g. ET Professional)	.21	.419	4	10%

Newsletters (e.g. IATEFL SIG Newsletters)	.05	.229	1	2.5%
Other	.00	.000	0	0%

Note. M = Mean; SD = Standard Deviation.

As detailed in Table 8, when participants were asked how frequently they engaged *with* research, those who had selected sometimes or often were further asked what they read. Findings indicated that participants tend to read mostly web-based sources of research (45%), followed by professional (35%) and academic journals (30%). Books (10%), professional magazines (10%), and newsletters (2.5%) are not very common among the participants.

Of the 40 participants, 19 reported engaging *with* research sometimes or often. These participants had differing opinions on how research might influence their teaching practices. The frequency analysis of how reading research materials affected their teaching is presented in Table 4.

Table 4

Descriptive Statistics of Influence of Reading Research on Teaching

Influence Level	Frequency (n)	Percentage (%)
No Influence	0	0%
Slight	4	21.1%
Moderate	6	31.6%
Fairly Strong	5	26.3%
Strong	4	21.1%
Total	19	100%

As illustrated in Table 4, among those participants who said they engaged *with* research sometimes or often, they were also asked to indicate to what extent their teaching is

influenced by the research they read. The majority of the participants reported that what they read had a slight (21.1%) to moderate (31.6%) influence on their teaching. However, almost one-fourth of the participants stated that research had a fairly strong impact on their teaching, while almost one-fifth indicated it had a strong impact.

Findings concerning the reasons for not engaging *with* research (i.e., reading research) are shown in Table 5.

Table 5

Descriptive Statistics of the Reasons for Not Reading Research

Reasons	M	SD	Frequency	Percentage
b. I do not have time.	.81	.402	17	42.5%
e. Published research does not give me practical advice for the classroom.	.52	.512	11	27.5%
c. I do not have access to books or journals.	.24	.436	5	12.5%
a. I am not interested in research.	.14	.359	3	7.5%
d. I find published research hard to understand.	.05	.218	1	2.5%
f. Other	.00	.000	0	0%

Upon asking the participants for the reasons behind their disengagement in reading research, they pointed out three main reasons for not engaging *with* research. The most common reason verbalized by participants was lack of time (42.5%). Secondly, they stated that published research does not give any useful advice for their teaching (27.5%). Lastly, they reported that they have no access to resources to do research (12.5%). The least common

reasons for not engaging *with* research were not being interested in research (7.5%) and finding published research hard to grasp (2.5%).

Having presented the details regarding participants' engagement *with* research, the section now proceeds with the presentation of the findings on engagement *in* research. Findings related to engaging *in* research (i.e., doing research) are presented in Table 6.

4.1.2. Findings Related to Participants' Engagement *in* Research

After presenting the details of participants' engagement *with* research, the section now shifts to explore their level of engagement *in* research, motivations for participating, and reasons for disengagement. Table 6 provides an overview of participants' level of engagement *in* research.

Table 6

Descriptive Statistics of Engaging in Research (i.e., Doing)

Engagement Level	Frequency (n)	Percentage (%)
Never	16	40%
Rarely	9	22.5%
Sometimes	10	25%
Often	5	12.5%
Total	40	100%

As seen in Table 6, a considerable number of participants indicated that they never engaged *in* research, while some reported rare engagement. However, a quarter of the participants stated that they sometimes engaged in research, and only a minority reported frequent engagement.

Table 7 presents descriptive statistics of the reasons for engaging *in* research, providing a detailed overview of participants' motivations for conducting research.

Table 7

Descriptive Statistics of Reasons for Doing Research

Reasons	M	SD	Frequency	Percentage
h. To find better ways of teaching.	.87	.352	13	32.5%
c. Because it is good for my professional development.	.80	.414	12	30%
b. Because I enjoy it.	.60	.507	9	22.5%
i. To solve problems in my teaching.	.60	.507	9	22.5%
g. To contribute to the improvement of the school generally.	.40	.507	6	15%
a. As part of a course I am studying on.	.33	.488	5	12.5%
e. Because my employer expects me to.	.13	.352	2	5%
d. Because it will help me get a promotion.	.07	.258	1	2.5%
f. Because other teachers can learn from the findings of my work.	.07	.258	1	2.5%
j. Other	0	.000	0	0%

Upon asking the participants to cite the reasons that motivate them to conduct research several reasons were recorded. The primary reason cited by the participants was finding better ways of teaching (32.5%), followed by considering research beneficial for their PD (30%). Other common motivations for engagement included enjoying the process (22.5%) and using it to address problems in their teaching (22.5%). Some of the participants reported that their engagement was part of a course requirement (12.5%). The least frequently cited reasons were the desire to get promoted (2.5%) and the belief that other teachers could learn from their research (2.5%).

Table 8 demonstrates the reasons for not engaging *in* research (i.e., doing research), offering a detailed overview of participants' motivations for not doing research.

Table 8

Descriptive Statistics of Reasons for Not Doing Research

Reasons	M	SD	Frequency	Percentage
c. I do not have time to do research.	.63	.495	15	37.5%
b. My job is to teach not to do research.	.38	.495	9	22.5%
i. The learners would not co-operate if I did research in class.	.33	.482	8	20%
e. I am not interested in doing research.	.25	.442	6	15%
j. Other teachers would not co-operate if I asked for their help.	.22	.422	5	12.5%
f. I need someone to advise me, but no one is available.	.21	.415	5	12.5%
d. My employer discourages it.	.13	.338	3	7.5%
g. Most of my colleagues do not do research.	.13	.338	3	7.5%
a. I do not know enough	.09	.294	2	5%

about research methods.				
h. I do not have access to the books and journals I need.	.08	.282	2	5%
k. Other	0	.000	0	0%

After exploring the reasons for engaging *in* research, participants were subsequently surveyed about the reasons for not engaging *in* research. Several reasons were highlighted by the participants. Firstly, the most common answer was lack of time (37.5%). Then, participants indicated that they are teachers, not researchers, and their job is not research but teaching (22.5%). The other common reasons were lack of cooperation from the learners (20%) and not being interested in conducting research (15%). Some participants also mentioned challenges such as a lack of cooperation from colleagues (12.5%) and the absence of someone to advise them (12.5%).

4.2. Findings Derived from the Open-ended Questions

Data obtained from the open-ended questions constituted the qualitative data, where findings are presented as follows.

4.2.1. Motivations for Engagement *with* Research

Participants shared various motivations for engagement *with* research (i.e., reading). Six main codes emerged from their responses, as provided in Table 9:

Table 9

Codes and Frequencies of Participants' Motivations for Engagement with Research

Code	Frequency
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Remaining Up to Date	6
Improving Teaching Quality	6
Professional Development and Self-Improvement	5
Curiosity	5
Supporting Student Success and Participation	5
Obligation	2

Participants highlighted several reasons for engaging *with* research. One common reason was staying up to date with the latest developments, methods, and trends in their field. They emphasized that keeping up with current research helps them refine their teaching methods and apply evidence-based practices. Two statements illustrating their opinions are presented below.

P6: *“As a teacher, I engage with research to stay informed about the latest developments in education, which helps me refine my teaching methods and ensure that I’m using evidence-based practices.”*

P18: *“I love keeping up with the current trends and methods by applying them in my class.”*

Another frequently mentioned reason was improving teaching quality. Participants identified discovering new teaching methods, enhancing lesson effectiveness, and implementing innovative strategies as motivations for engaging *with* research. The next two excerpts showcase their opinions. The following two excerpts illustrate their opinions.

P11: *“To make my lessons more effective and to use different language teaching techniques for my students’ success.”*

P19: *“Learning new ways to teach and improve myself in the area of teaching.”*

In addition, participants considered research an essential part of their PD and self-improvement. They emphasized the role of research in teaching since they want to foster their teaching skills and growth as educators. The following statements illustrate participants’ perspectives on this topic.

P3: *“I try to engage with research because they are important for both my professional development and my teaching style. If I engage with researches, I feel like they will help me to be a better teacher or an academic.”*

P12: *“I read research to become a better teacher and support my students in learning English more effectively. Reading also keeps me curious and helps me build skills for my future.”*

Curiosity also emerged as a key reason for engaging *with* research. Some participants expressed a desire to satisfy their curiosity and integrate the findings of previous studies into their teaching. They also highlighted the enjoyment they derived from actively engaging *with* research. The excerpts reflecting their opinions are presented as follows.

P15: *“I enjoy reading research-based papers due to the fact that I can see the potential outcomes before I need to test them in the class myself. In addition, I find it interesting to apply some of them as well just to compare the results with that paper”*

P17: *“To learn something useful.”*

Supporting student success and participation was another prominent reason. Participants emphasized the importance of engaging *in* research to improve learning outcomes and meet the diverse needs of their learners. Below are two segments highlighting their opinions.

P6: *“Research allows me to better understand the diverse needs of my students and adapt my instruction to maximize their learning outcomes.”*

P12: *“I read research to become a better teacher and support my students in learning English more effectively.”*

Finally, some of the participants indicated that engaging *with* research was an obligation for them, particularly as part of their academic studies. The following excerpts provide insight into their opinions.

P5: *“It's a must.”*

P9: *“I study MA degree, so it's like a must. However, sometimes I encounter things that I can implement my teaching.”*

4.2.2. Challenges Faced by Participants in Engaging *with* Research

Among those participants who said they engaged *with* research never or rarely were further asked about the reasons behind their lack of engagement. Various barriers were identified, as presented in Table 10:

Table 10

Codes and Frequencies of Participants' Reasons for Not Engaging with Research

Code	Frequency
Lack of Practicality and Applicability	6
Time Constraints	6
Perceived Complexity and Repetition	4
Lack of Interest or Motivation	3
Lack of Access	2

Participants identified several challenges in engaging *with* research. One common issue was the lack of practicality and applicability. Some participants reported that research papers are too academic and lack practical and applicable advice for the real classroom environment. The subsequent excerpts demonstrating their views are presented below.

P20: *"It's too academical, not practical and most of the time they don't suggest advice or they don't guide us."*

P37: *"It's not authentic enough to apply in the classroom. Classrooms have lots of different individuals that's why the research is a bit shallow to apply."*

Another frequently mentioned challenge was time constraints. Participants highlighted their busy schedules, teaching responsibilities, and personal commitments as barriers to engaging *with* research. The following two statements reflect participants' opinions on this challenge.

P23: *"I am so busy during the week working in a private institution. Also, I have many private lessons outside school. That's why I can't follow the recent studies."*

P28: *"Not having enough time for reading research and my different responsibilities."*

Perceived complexity and repetition also emerged as barriers. Some participants considered research papers to be extremely complex, repetitive, or not very engaging. The segments exemplifying their views are presented below.

P30: *“I do enjoy reading studies but there are lots and lots of repetitive topics, I just try to read what is within the scope of my interest and that doesn’t happen very often when I come across interesting studies.”*

P35: *“Some proposals seem meaningless to me, sometimes the writing style and the language used seem complicated and boring, so I feel lost while reading and reading becomes boring.”*

A lack of interest or motivation was another barrier mentioned by some participants. They expressed that they were not motivated or interested in reading research papers. Below are two excerpts highlighting their opinions.

P31: *“I do not have neither interest nor time for reading research paper.”*

P34: *“Most of the time I do not find them engaging.”*

Access to resources was also a significant challenge. Some participants reported difficulties in reaching research articles due to paywalls and restricted access to journals. The next excerpts highlight their opinions.

P24: *“I don’t have access to the journals.”*

P40: *“I cannot download research papers because most of them are not free. Free ones are not interesting papers.”*

4.2.3. Motivations for Engaging *in* Research

Similar motivations for engagement *in* research (i.e., doing) appeared as in the reading part in 5 codes, where the frequencies of codes are presented in Table 11.

Table 11

Codes and Frequencies of Participants’ Motivations for Engagement in Research

Code	Frequency
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Finding Solutions for Problems in Teaching	4
Improving Teaching Practice and Professional Growth	4
Academic and Personal Curiosity	4
Motivational and Emotional Factors	3
Staying Relevant and Up to Date	2

Participants identified various motivations for engaging *in* research. One key motivation was solving classroom problems. They highlighted that research serves as a valuable tool in solving the specific problems they experience in the classroom. The following excerpts demonstrating their opinions are provided below.

P2: *“My motivation is to find the solutions to the problems in my teaching and understand my students in some other aspects that I can possibly ignore in some reasons.”*

P11: *“When I encounter a problem with my students, I do research to learn strategies used by other teachers.”*

Another reason for engaging *in* research was the desire to enhance teaching practices and support professional growth. Participants engaged in research to improve their teaching skills, remain updated with educational trends and grow professionally. The next two excerpts showcase their views.

P4: *“I do research to enhance my teaching strategies, stay updated on educational trends, and provide my students with the best learning experience possible. It helps me grow professionally and address classroom challenges effectively.”*

P9: *“I do research to find better ways to help students learn English, especially through things they enjoy, like media and games. It’s a way for me to grow as a teacher and contribute to my field.”*

For some, the motivation for research engagement stemmed from a combination of academic and personal curiosity. Two excerpts exemplifying their views are presented below.

P5: *“Because I am a master student who enjoys learning new things.”*

P14: *“To learn something new in terms of teaching and classroom management.”*

Motivational and emotional factors also influenced participants' engagement *in* research. Some described an internal drive that prompted them to begin research and the emotional satisfaction they felt while conducting it. The following segments illustrate their perspective on this topic.

P7: *"As stated, it is part of my degree. I enjoy the satisfaction when I end the research."*

P13: *"I love trying different things in my class and classroom is my laboratory."*

Remaining up to date was another reason why participants engaged in research. Some emphasized the significance of staying current with trends and developments in their profession. The subsequent excerpts provide participants' views on this issue.

P4: *"Stay updated on educational trends."*

P6: *"I do not want to become a teacher who falls behind the new teaching era."*

4.2.4. Reasons for Not Engaging *in* Research

Similar reasons voiced for not engaging *with* research emerged in not engaging *in* research as (i.e., doing) well. Several barriers were identified, as shown in Table 12.

Table 12

Codes and Frequencies of Participants' Reasons for Not Engaging in Research

Code	Frequency
Time Constraints	6
Lack of Knowledge or Guidance	5
Practical and Contextual Challenges	5
Lack of Motivation or Interest	4
Perceptions of Research as Impractical or Intimidating	4

One commonly mentioned reason for not engaging *in* research was lack of time due to a heavy workload, teaching responsibilities, and other duties. Participants expressed that their schedules were already demanding, leaving them little to no time for research. They reflected their opinions in the following two excerpts.

P26: *"I don't have the time. I barely keep up with the curriculum."*

P30: *"Frankly, I don't even think of doing research, I spend most of my time preparing for the next class and/or checking exams."*

Another challenge participants faced was lack of knowledge, skills, and guidance regarding how to start and conduct research effectively. The following statements illustrate their perspectives on this challenge.

P19: *"I really need and professional and helpful advisor; without her/him I cannot go further."*

P35: *"I don't think I am competent enough to do research, if you mean academic research."*

In addition to these barriers, some participants pointed to practical and contextual challenges such as difficulty in involving students or lack of institutional support which directly impacts their engagement levels. They often feel they lack the necessary support from their learners and colleagues. The next statements provide insight into their perspectives on this challenge.

P19: *"The language level of the learners I teach is so low that I don't think that they understand my research and participate in."*

P24: *"Teachers working here feel the need of doing what is being said and nothing more because no one will participate the study or support me during the process."*

Some participants stated that they were either uninterested in conducting research or lacked the motivation to do so, as they did not find it appealing. Two segments reflecting their opinions are displayed below.

P33: *"I am not interested in doing research."*

P39: *"I don't have the time, and I am not interested in doing research."*

Lastly, some participants perceived research as impractical for real classroom contexts and found it intimidating because of its complexity. Below are two statements expressing participants' views on this challenge.

P36: *"It is not practical in my classrooms."*

P34: *"I don't like the long process of taking permissions and stuff."*

4.3. Findings Related to Research Self-Efficacy Scale

The Comprehensive Research Self-Efficacy Scale (C-RSES) developed by Taş et al. (2023) was used to assess research self-efficacy across six factors. Findings regarding the descriptive statistics of research self-efficacy are provided in Table 13.

Table 13

Descriptive Statistics of Research Self-Efficacy According to its Factors

Factors	Scores/out of total factor score	M	Mdn	SD	Min.	Max.
Research Ethics	15.65/20	3.91	4.25	1.146	1	5
Discussion	19.37/25	3.88	4	1.052	1	5
Literature Review and Research Problem	30.32/40	3.79	4	.921	1	5
Research Plan	22.32/30	3.72	4	1.076	1	5
Conceptual/Theoretical Framework	7.22/10	3.61	4	1.190	1	5
Data Analysis	10.17/15	3.39	3.50	1.162	1	5
Total	105.07/140					

Note. M = Mean, Mdn = Median, SD = Standard Deviation, Min = Minimum, Max = Maximum

The descriptive statistics for the factors assessed by the scale are detailed in Table 13. Participants demonstrated high levels of research self-efficacy, with mean scores ranging from 3.39 to 3.91. The Research Ethics factor exhibited the highest level of research self-efficacy, with a mean score of 3.91, indicating that participants trust their knowledge of research ethics and its processes. Discussion and Literature Review and Research Problem

factors followed closely with mean scores of 3.88 and 3.79, respectively, demonstrating moderate to high research self-efficacy across these aspects. In contrast, among other factors, the Data Analysis factor had the lowest mean score of 3.39, reflecting a lower level of self-efficacy in their data analysis skills. Similarly, the Conceptual/Theoretical Framework factor showed a mean score of 3.61, indicating moderate levels of self-efficacy.

Descriptive statistics of the Literature Review and Research Problem Factor are summarized in Table 14.

Table 14

Descriptive Statistics of the Literature Review and Research Problem Factor

Items	M	Mdn	SD	Min.	Max.
3. I can access electronic and physical resources to conduct a literature review on the research problem I have identified.	4.08	4	1.141	1	5
4. I can do a comprehensive literature review on the research problem I have identified.	4.00	4	1.038	1	5
8. I can explain the significance of my study and its place in the literature related to the research problem I have identified.	3.93	4	1.185	1	5
2. I can determine the problem I plan to do scientific research by discussing it with other researchers.	3.85	4	.893	2	5
1. I can identify the problem that I plan to do scientific research on by reviewing the existing literature.	3.75	4	1.104	1	5
5. I can identify the theories in the literature related to the research problem I have identified.	3.65	4	1.189	1	5
6. I can report the synthesis of the existing studies conducted on the	3.58	4	1.217	1	5

research problem I have determined.

7. I can decide on the appropriate theory to form the basis of my study related to the research problem I have identified.	3.50	4	1.038	1	5
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Upon investigating participants' self-efficacy in conducting a literature review and developing a research plan, the results showed that they felt most self-efficacious in accessing resources ($M = 4.08$, $SD = 1.141$) and conducting a comprehensive literature review on their chosen topic ($M = 4.00$, $SD = 1.038$). Following these, describing the significance of their work and positioning it within the relevant body of literature ($M = 3.93$, $SD = 1.185$), as well as selecting a research topic through discussions with other researchers ($M = 3.85$, $SD = .893$), were the areas in which participants felt most self-efficacious. Participants reported the lowest self-efficacy in determining the theoretical framework to underpin their study ($M = 3.50$, $SD = 1.038$). Overall, they expressed moderate to high levels of self-efficacy in the literature review and research plan factor.

Table 15 provides descriptive statistics for the Research Self-Efficacy scores related to the Discussion factor.

Table 15

Descriptive Statistics of the Discussion Factor

Items	M	Mdn	SD	Min.	Max.
22. I can discuss the findings of my study by relating them to the existing literature.	4.00	4	1.038	1	5
24. I can identify and explain the limitations of my study.	3.98	4	1.250	1	5

21. I can convey how the results I have obtained will contribute to the relevant field.	3.83	4	1.107	1	5
23. I can make suggestions for future research based on the study findings.	3.83	4	1.279	1	5
20. I can interpret the findings obtained as a result of data analysis.	3.75	4	1.149	1	5

According to the findings, participants demonstrated moderate to high self-efficacy in the discussion factor. Among the assessed skills, participants felt most self-efficacious in discussing the results of their study by relating them to previously published research ($M = 4.00$, $SD = 1.038$). Participants also demonstrated self-efficacy in conveying how their results contribute to the relevant field ($M = 3.83$, $SD = 1.107$) and in making suggestions for future research ($M = 3.83$, $SD = 1.279$). Conversely, the lowest-rated skill, though still within the moderate to high range, was the ability to interpret findings based on data analysis ($M = 3.75$, $SD = 1.149$). Overall, these results suggest that participants feel self-efficacious in handling (i.e., discussion and interpretation of findings) and positioning their research findings.

The descriptive statistics for Research Self-Efficacy scores concerning the Data Analysis factor are presented in Table 16.

Table 16

Descriptive Statistics of the Data Analysis Factor

Items	M	Mdn	SD	Min.	Max.
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17. I can analyze the collected data with the determined data analysis method in order to find an answer to the research question I have formed.	3.48	4	1.261	1	5
18. I can identify appropriate computer software that can assist the data analysis process to answer the research question I have formed.	3.43	4	1.299	1	5
19. I can effectively use the determined computer software in the data analysis process to answer the research question I have created.	3.28	3	1.281	1	5

Findings demonstrated that the participants expressed moderate levels of self-efficacy in the data analysis factor. Particularly, utilizing the chosen data analysis approach to examine the gathered data to provide a response to the research question they have formulated ($M = 3.48$, $SD = 1.261$) had a moderate mean score indicating that participants have moderate self-efficacy in their data analysis skills and knowledge. Compared to the other items, participants reported lower levels of self-efficacy in utilizing the chosen software for data analysis to address the research question ($M = 3.28$, $SD = 1.281$).

The descriptive statistics of the research self-efficacy, based on the research plan factor, are presented in Table 17.

Table 17

Descriptive Statistics of the Research Plan Factor

Items	M	Mdn	SD	Min.	Max.
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13. I can determine the appropriate research method (quantitative/qualitative/mixed) to find an answer to the research question I have formed.	3.83	4	1.238	1	5
12. I can transform the problem I plan to research into a research question by narrowing it down to a specific area.	3.78	4	1.165	1	5
11. I can transform the problem I plan to research into a research question that can be studied by using scientific methods.	3.70	4	1.137	1	5
14. I can identify an appropriate and sufficient number of participants/sample groups to answer the research question I have formed.	3.68	4	1.289	1	5
15. I can identify appropriate data collection tools to answer the research question I have formed.	3.68	4	1.095	1	5
16. I can manage data collection processes to find an answer to the research question I have formed.	3.68	4	1.185	1	5

As illustrated in Table 17, findings indicate that the participants had moderate to high levels of self-efficacy in the research planning process. Participants felt most self-efficacious in determining the appropriate research method ($M = 3.83$, $SD = 1.238$), followed by turning the research problem into a research question by narrowing it down to a specific area ($M = 3.78$, $SD = 1.165$) and making sure it can be studied using scientific methods ($M = 3.70$, $SD = 1.137$). In contrast, participants reported lower self-efficacy in identifying appropriate and sufficient sample groups ($M = 3.68$, $SD = 1.289$), then determining the appropriate data collection instruments ($M = 3.68$, $SD = 1.095$) and managing the data collection process ($M = 3.68$, $SD = 1.185$).

Table 18 presents the descriptive statistics for research self-efficacy in relation to the research ethics factor.

Table 18

Descriptive Statistics of the Research Ethics Factor

Items	M	Mdn	SD	Min.	Max.
26. I know the quotation and citation rules when referencing different resources in my study.	4.18	5	1.196	1	5
28. I know the ethical rules about the storage, use, and protection of data collected from individuals.	3.98	4	1.271	1	5
27. I know the author's rights in the studies conducted with more than one researcher.	3.85	4	1.388	1	5
25. I know the ethics committee application process is required for my study.	3.65	4	1.442	1	5

Table 18 reveals that participants generally expressed high levels of self-efficacy regarding their knowledge of research ethics. The participants felt self-efficacious in their knowledge of the guidelines for quotation and citation when citing various sources in their research ($M = 4.18$, $SD = 1.196$). They are also informed about ethical guidelines regarding the storage, use, and protection of data obtained from individuals ($M = 3.98$, $SD = 1.271$), as well as the rights of the author in studies involving many researchers ($M = 3.85$, $SD = 1.388$). Overall, participants displayed moderate to high self-efficacy concerning research ethics, with a tendency to be more self-efficacious in areas related to citation and data protection.

Details of the descriptive statistics for research self-efficacy related to the conceptual theoretical framework factor are displayed in Table 19.

Table 19

Descriptive Statistics of the Conceptual/Theoretical Framework Factor

Items	M	Mdn	SD	Min.	Max.
9. I know the difference between theoretical and conceptual frameworks.	3.70	4.00	1.224	1	5
10. I can identify an appropriate theoretical or conceptual framework for my study.	3.53	4.00	1.240	1	5

The participants showed moderate self-efficacy regarding theoretical and conceptual frameworks, with mean scores of 3.70 ($SD = 1.224$) and 3.53 ($SD = 1.240$), respectively. Participants reported higher self-efficacy in understanding the difference between theoretical and conceptual frameworks; however, they felt less self-efficacious in identifying an appropriate theoretical or conceptual framework for their study.

4.4. Findings Related to Participants' Personality Traits

Findings regarding the participants' personality traits by domain are provided in Table 20.

Table 20

Descriptive Statistics of Personality Traits According to Domains

Domains	M	Mdn	SD	Min.	Max.
Agreeableness	41.08	40	5.731	34	58
Conscientiousness	39.88	38	5.805	32	60
Open-Mindedness	39.18	38.50	4.717	32	60
Extraversion	38.40	38	4.144	32	57
Negative Emotionality	36.95	36.50	5.267	30	56

When the personality traits of the participants were analyzed, distinct patterns across different domains were found. According to the findings, participants had the highest mean score in the Agreeableness domain ($M = 41.08$) indicating participants' tendency toward compassion, respectfulness, and trust. The second highest score belonged to Conscientiousness ($M = 39.88$) and Open-mindedness ($M = 39.18$) domains. Similarly, Extraversion possessed a high mean score of 38.40 which shows that participants tend to exhibit characteristics such as sociability, assertiveness, and enthusiasm. On the other hand, participants reported comparatively lower scores in the Negative Emotionality domain ($M = 36.95$), indicating a low level of anxiety, depression, and emotional volatility.

Findings regarding participants' personality traits according to facets are demonstrated in Table 21.

Table 21

Descriptive Statistics of Personality Traits According to Facets

Domains	Facets	M	Mdn	SD	Min.	Max.
Extraversion	Sociability	14.05	13.50	2.075	11	19
	Assertiveness	12.38	12	2.404	8	20
	Energy Level	11.98	12	2.118	8	20

Agreeableness	Compassion	13.90	14	2.509	9	19
	Respectfulness	14	14	2.509	9	19
	Trust	13.18	13	2.890	8	20
Conscientiousness	Organization	12.33	12	2.154	8	20
	Productiveness	14.33	14	2.235	11	20
	Responsibility	13.33	13	2.973	8	20
Negative Emotionality	Anxiety	12.03	12	2.118	8	18
	Depression	12.55	12.50	2.275	8	20
	Emotional Volatility	12.38	12	2.047	8	18
Open-Mindedness	Intellectual Curiosity	12.65	12	2.047	8	18
	Aesthetic Sensitivity	14.33	15	2.291	9	20
	Creative Imagination	12.20	12	2.301	8	20

Each personality domain has three facets that provide more detailed insights into personal characteristics. To start with, in the Extraversion domain, the facets of Sociability, Assertiveness, and Energy Level are assessed. Sociability had the highest mean score with 14.05 suggesting they are outgoing and enjoy social interactions. Assertiveness and Energy Level also reported relatively high scores (12.38 and 11.98, respectively), indicating that participants tend to be moderately assertive and energetic. Meanwhile, in the Agreeableness domain Respectfulness ($M = 14.00$) and Compassion ($M = 13.90$) demonstrated the highest mean scores reflecting that they tend to be considerate and empathetic in their relationships. In the Conscientiousness domain, participants reported the highest score in the Productiveness facet ($M = 14.33$), showing participants' willingness to complete the tasks efficiently. In contrast, compared to other domains, the Negative Emotionality domain possessed lower and balanced scores in all facets such as anxiety, depression, and emotional volatility, suggesting that negative emotional traits are not dominant among the participants. The Open-mindedness domain reflected average to high mean scores in all facets. Aesthetic

Sensitivity had the highest score ($M = 14.33$), suggesting that participants tend to appreciate and value aesthetic experiences.

4.5. Findings Related to Participants' Critical Thinking Dispositions

Findings regarding participants' critical thinking dispositions are detailed in Table 22.

Table 22

Descriptive Statistics of Marmara Critical Thinking Dispositions Scale

Sub-dimension	Total Score (Sum)/out of total sub-dimension scores	Mdn	SD	Min.	Max.
Reasoning	26.30/30	27	2.946	20	30
Reaching Judgement	25.83/30	25	2.986	21	30
Systematicity	17.53/20	18.50	2.698	9	20
Open-mindedness	17.48/20	18	2.470	11	20
Searching for Evidence	17.48/20	17	2.353	13	20
Searching for the Truth	17/20	16.50	2.253	12	20
Total	121.60/140	122.50	13.064	93	140

The critical thinking disposition sub-dimensions were assessed across various sub-dimensions, and it is evident that participants exhibited relatively high levels of critical thinking dispositions. Among all the sub-dimensions, the highest total scores were observed in the Reasoning (Total Score = 26.30) and Reaching Judgement (Total Score = 25.83) sub-dimensions, indicating that participants' disposition or tendency to think logically and make sound judgments based on available information is particularly strong in these areas. On the

other hand, the Systematicity sub-dimension (Total Score = 17.53) had a relatively lower score, which is not unexpected given that it was assessed on a 20-point scale. Similarly, the Open-mindedness (Total Score = 17.48), Searching for Evidence (Total Score = 17.48), and Searching for the Truth (Total Score = 17.00) sub-dimensions also showed relatively lower scores, indicating a weaker disposition. Nevertheless, despite these lower scores in certain areas, the total score of 121.60 out of 140 indicates that participants demonstrate solid dispositions toward critical thinking skills.

Findings related to the Reasoning sub-dimension are presented in Table 23.

Table 23

Descriptive Statistics of MCTDS Reasoning Sub-dimension

Items	M	Mdn	SD	Min.	Max.
2. Sorun, durum veya olayları açıklamaya çalışırım. <i>[I try to explain problems, situations or events.]</i>	4.58	5	.549	3	5
5. Karşılaştığım bir fikri, bilgiyi, sorunu, olayı veya durumu sorgularım. <i>[I question an idea, information, problem, event or situation I encounter.]</i>	4.43	4.50	.675	2	5
3. Bir sorun, durum veya olayı tüm yönleriyle değerlendiririm. <i>[I evaluate all aspects of a problem, situation or event.]</i>	4.43	4.50	.636	3	6
1. Olay, fikir veya sorunlar arasındaki ilişkileri analiz ederim. <i>[I analyze the relationships between events, ideas or problems.]</i>	4.40	4	.496	4	5
6. Olayların veya sorunların nedenini araştırırım. <i>[I investigate the cause of events or problems.]</i>	4.38	4	.628	3	5
4 Bir fikri, sorunu veya durumu değerlendirmeden önce yeterince bilgi toplarım. <i>[I gather sufficient information before evaluating an idea, problem, or situation]</i>	4.10	4	.871	1	5

Note. The square brackets denote the English versions of the MCTDS items as translated by the author of this thesis.

Based on the findings obtained through MCTDS, as shown in Table 23, participants generally exhibited a strong disposition toward critical thinking in the Reasoning sub-dimension. Particularly, they displayed the highest disposition in explaining problems, situations, or events ($M = 4.58$, $SD = .549$). Similarly, they reflected a relatively high disposition to question ideas, information, and problems ($M = 4.43$, $SD = .675$), indicating that they are open to critically analyzing the information they encounter. Additionally, participants demonstrated a strong tendency to evaluate all aspects of a problem, situation, or event ($M = 4.43$, $SD = .636$). In contrast, participants exhibited slightly lower scores for investigating the cause of events or problems ($M = 4.38$, $SD = .628$). Finally, the disposition to gather sufficient information before evaluating something ($M = 4.10$, $SD = .871$) was the lowest among the items, although both of these scores still reflect significant tendencies

Findings regarding Reaching Judgement sub-dimension are given in Table 24.

Table 24

Descriptive Statistics of the MCTDS Reaching Judgement Sub-dimension

Items	M	Mdn	SD	Min.	Max.
10. Karşılaştığım bir sorunu, fikri veya olayı anlamaya çalışırım. <i>[I try to understand a problem, idea or event I encounter.]</i>	4.55	5	.504	4	5
8. Öğrendiğim genel bilgilerden yeni bir sonuca ulaşırım. <i>[I reach a new conclusion from the general information I have learned.]</i>	4.38	4	.667	2	5
12. Bir konu veya fikri anlamak için uygun sorular sorarım. <i>[I ask appropriate questions to understand a topic or idea.]</i>	4.38	4	.667	3	5
9. Bir durum, sorun veya olayla ilgili belirlediğim riskleri değerlendiririm. <i>[I evaluate the risks I identify regarding a situation, problem or event.]</i>	4.20	4	.758	2	5

7. Bir olay, fikir veya sorunla ilgili bilgileri benzerlik ve farklılıklarına göre sınıflandırırım. 4.18 4 .747 2 5

[I classify information about an event, idea or problem according to their similarities and differences.]

Note. The square brackets denote the English versions of the MCTDS items as translated by the author of this thesis.

As seen in Table 24, in the *Reaching Judgement* sub-dimension, participants exhibited a strong disposition toward making judgments. The highest mean score was observed for trying to understand a problem ($M = 4.55$, $SD = .504$), indicating that participants have a strong tendency to grasp various issues. They also demonstrated a high disposition for reaching new conclusions based on the general information they have learned ($M = 4.38$, $SD = .667$) and asking appropriate questions to deepen their understanding of a topic ($M = 4.38$, $SD = .667$).

Findings pertaining to the Search Evidence sub-dimension are displayed in Table 25.

Table 25

Descriptive Statistics of the MCDTS Search Evidence Sub-dimension

Factors	M	Mdn	SD	Min.	Max.
15. Karşılaştığım bir fikrin veya bilginin doğruluğunu kabul etmek için güçlü kanıt ararım. <i>[I look for strong evidence to accept the truth of an idea or information I encounter.]</i>	4.43	4.50	.636	3	5
14. Güvenilir ve farklı kaynaklardan bilgi edinirim. <i>[I obtain information from reliable and different sources.]</i>	4.40	4	.545	3	5
13. Düşüncelerimi güvenilir bilgi ve güçlü kanıtlarla desteklerim. <i>[I support my opinions with reliable information and strong evidence.]</i>	4.33	4	.656	3	5
16. Düşüncelerimin ve eylemlerimin yanlışlığını-doğruluğunu değerlendiririm. <i>[I evaluate the rightness or wrongness of my thoughts and actions.]</i>	4.33	4	.764	2	5

Note. The square brackets denote the English versions of the MCTDS items as translated by the author of this thesis.

As shown in Table 25, participants expressed confidence in seeking evidence before accepting the validity of an idea or piece of information ($M = 4.43$, $SD = 0.636$). This was followed by their ability to gather information from reliable and diverse sources ($M = 4.40$, $SD = 0.545$). Additionally, they reported confidence in supporting their opinions with trustworthy information ($M = 4.33$, $SD = 0.656$) and assessing the rightness or wrongness of their thoughts ($M = 4.33$, $SD = 0.764$).

Findings related to the Search the Truth sub-dimension are detailed in Table 26.

Table 26

Descriptive Statistics of the MCTDS Search the Truth Sub-dimension

Items	M	Mdn	SD	Min.	Max.
18. Bir fikir, olay, durum veya sorunun arkasında yatan nedenleri araştırırım. <i>[I investigate the reasons behind an idea, event, situation or problem.]</i>	4.40	4.00	.545	3	5
19. Yeni bir şey yapmak veya öğrenmek için zihinsel ve duyuşsal becerilerimi kullanırım. <i>[I use my mental and emotional skills to do or learn something new.]</i>	4.38	4.00	.667	2	5
20. Sorun veya olayları gerçekçi bir şekilde ele alırım. <i>[I handle problems or events realistically.]</i>	4.33	4.00	.694	2	5
17. Edindiğim bilgi veya fikirleri değerlendirirken acele etmem. <i>[I do not rush when evaluating the information or ideas I acquire.]</i>	3.90	4.00	1.008	1	5

Note. The square brackets denote the English versions of the MCTDS items as translated by the author of this thesis.

As detailed in Table 26, participants exhibited a strong disposition to explore the underlying causes of ideas, events, situations, or problems ($M = 4.40$, $SD = .545$). They also

demonstrated a notable disposition for utilizing their mental and emotional skills to learn or accomplish something new ($M = 4.38$, $SD = .667$) and for addressing problems or events realistically ($M = 4.33$, $SD = .694$). However, they were slightly less inclined to take a measured approach when evaluating acquired information or ideas ($M = 3.90$, $SD = 1.008$).

Findings regarding the Open-Mindedness sub-dimension are presented in Table 27.

Table 27

Descriptive Statistics of the MCTDS Open-Mindedness Sub-dimension

Items	M	Mdn	SD	Min.	Max.
24. Durum, fikir veya olayları ele alırken farklı açılardan bakarım. <i>[I look at situations, ideas or events from different perspectives when dealing with them.]</i>	4.53	5	.640	3	5
23. Yaptığım bir hatanın veya davranışın nedenini açıklarım. <i>[I explain the reason for a mistake or behavior I made.]</i>	4.40	5	.744	2	5
22. Farklı fikirleri olan insanlara saygı duyarım. <i>[I respect people who have different ideas.]</i>	4.38	5	.807	2	5
21. Sorunları çözerken veya karar verirken diğer insanların görüşlerini dikkate alırım. <i>[I take other people's opinions into account when solving problems or making decisions.]</i>	4.18	4	.813	2	5

Note. The square brackets denote the English versions of the MCTDS items as translated by the author of this thesis.

As the findings illustrate, participants exhibited a strong disposition to view situations and events from different perspectives ($M = 4.53$, $SD = .640$) and to clarify the cause behind a mistake or behavior ($M = 4.40$, $SD = .744$). Additionally, they demonstrated a high disposition for respecting individuals with different ideas ($M = 4.38$, $SD = .807$) and considering others' opinions when solving problems or making decisions ($M = 4.18$, $SD = .813$).

Findings related to the Systematicity sub-dimension are given in Table 28.

Table 28

Descriptive Statistics of the MCTDS Systematicity Sub-dimension

Items	M	Mdn	SD	Min.	Max.
28. Bir fikir, olay, sorun veya durumla ilgili çıkarımlarda bulunurum. <i>[I make inferences about an idea, event, problem or situation.]</i>	4.53	5	.554	3	5
25. Yaşadığım olaylardan veya edindiğim bilgilerden sonuçlar çıkarırım. <i>[I draw conclusions from the events I experience or the information I obtain.]</i>	4.48	5	.679	3	5
27. Fikirleri veya olayları değerlendirirken kendi değerlerimi dikkate alırım. <i>[I take my own values into account when evaluating ideas or events.]</i>	4.35	5	.864	1	5
26. Bir şeyi ne zaman ve nasıl yapacağımı planlarım. <i>[I plan when and how I will do something.]</i>	4.18	5	1.107	1	5

Note. The square brackets denote the English versions of the MCTDS items as translated by the author of this thesis.

The findings revealed that participants exhibited a strong tendency to make inferences from various ideas, events, problems, or situations, with a high mean score of 4.53 ($SD = .554$). Following this, they demonstrated a significant inclination to draw conclusions from their own experiences and the information they obtained ($M = 4.48$, $SD = .679$). Additionally, participants showed a strong disposition to consider their own values when evaluating ideas or events ($M = 4.35$, $SD = .864$). Finally, participants reported a relatively high tendency to plan when and how to do something, with a mean score of 4.18 ($SD = 1.107$).

4.7. Mann-Whitney U Test Results

To address Research Questions 2.1 and 2.1.a, a Mann-Whitney U test was conducted to examine whether research self-efficacy levels differed between participants with low and high research engagement. Participants were categorized into two groups based on their responses to the research engagement question: those who answered “Never” or “Rarely”

were categorized as the low engagement group, while those who answered “Sometimes” or “Often” were categorized as the high engagement group.

Findings regarding Mann-Whitney U results regarding research self-efficacy scores by engagement *with* research are illustrated in Table 29.

Table 29

Mann-Whitney U Test Results for Research Self-Efficacy Scores by Engagement with Research (i.e., reading)

	Engagement <i>with</i> Research	N	Mean Rank	Mann Whitney U	Z	P (2- tailed)
Literature Review and Research Problem	Low	21	18.60	159.500	-1.088	.277
	High	19	22.61			
Discussion	Low	21	21.24	184	-.424	.671
	High	19	19.68			
Data Analysis	Low	21	21.60	176.500	-.628	.530
	High	19	19.29			
Research Plan	Low	21	20.14	192	-.204	.838
	High	19	20.89			
Research Ethics	Low	21	21.19	185	-.398	.691
	High	19	19.74			
Conceptual/Theoretical Framework	Low	21	20.07	190.500	-.248	.804
	High	19	20.97			
RSES TOTAL	Low	21	20	189	-.284	.776
	High	19	21.05			

Note. N = number of participants; Mean Rank indicates the average rank for each group.

As detailed in Table 29, the results indicated that there was no statistically significant difference in research self-efficacy between the high and low engagement groups, both

overall and across specific factors. For the overall research self-efficacy, as assessed through the RSES TOTAL score, the high engagement group (Mean Rank = 24.43) exhibited a higher mean rank than the low engagement group (Mean Rank = 18.14). Nevertheless, the results indicated no statistically significant difference between the two groups ($U = 189$, $Z = -0.284$, $p = .776$).

Similarly, no significant differences were found for the factors, however, the mean ranks for the high engagement group were slightly higher in most factors, including Literature Review and Research Problem (Mean Rank = 22.61) Research Plan (Mean Rank = 20.89), and Conceptual/Theoretical Framework (Mean Rank = 20.97). In contrast, in the Discussion (Mean Rank = 19.68) and Data Analysis (Mean Rank = 19.29) factors the low engagement group had higher mean ranks. However, the differences were not statistically significant ($p > .05$ in all cases), suggesting that research engagement levels did not vary significantly according to research engagement.

Findings related to Mann-Whitney U test results for research self-efficacy scores by engagement *in* research are detailed in Table 30.

Table 30

Mann-Whitney U Test Results for Research Self-Efficacy Scores by Engagement in Research (i.e., doing)

	Engagement <i>in</i> Research	N	Mean Rank	Mann Whitney U	Z	p (2- tailed)
Literature Review and Research Problem	Low	25	17.88	122	-1.838	.066
	High	15	24.87			
Discussion	Low	25	18.80	145	-1.200	.230
	High	15	23.33			
Data Analysis	Low	25	18.12	128	-1.676	.094
	High	15	24.47			
Research Plan	Low	25	19.08	152	-.998	.319
	High	15	22.87			

Research Ethics	Low	25	18.98	149.500	-1.075	.283
	High	15	23.03			
Conceptual/Theoretical Framework	Low	25	17.70	117.500	-1.987	.047
	High	15	25.17			
RSES TOTAL	Low	25	18.14	128.500	-1.649	.099
	High	15	24.43			

The analysis revealed that there was a statistically significant difference between the high and low engagement groups in the Conceptual/Theoretical Framework factor ($U = 117.500$, $Z = -1.987$, $p = .047$). However, no significant differences were found in overall research self-efficacy (RSES TOTAL) ($U = 128.500$, $Z = -1.649$, $p = .099$) or in other research self-efficacy factors, including Literature Review and Research Problem, Data Analysis, Discussion, Research Plan, and Research Ethics ($p > .05$ in all cases).

Although significance was only observed in the Conceptual/Theoretical Framework factor, the high engagement group had higher mean ranks across all factors compared to the low engagement group. The largest difference was found in the Conceptual/Theoretical Framework factor, where the high engagement group (Mean Rank = 25.17) had a considerably higher rank than the low engagement group (Mean Rank = 17.70). This suggests that participants with higher research engagement felt more self-efficacious in understanding and identifying theoretical and conceptual frameworks.

Similarly, the high engagement group also had higher mean ranks in Literature Review and Research Problem (Mean Rank = 24.87, $p = .066$) and Data Analysis (Mean Rank = 24.47, $p = .094$), but these differences were not statistically significant. The mean rank for overall research self-efficacy (RSES TOTAL) was also higher in the high engagement group (Mean Rank = 24.43) compared to the low engagement group (Mean Rank = 18.14). However, this difference was not statistically significant, indicating that engagement *in* research did not vary according to overall research self-efficacy.

Findings regarding Mann-Whitney U results regarding critical thinking disposition scores by engagement *with* research are illustrated in Table 31.

Table 31

Mann-Whitney U Test Results for MCTDS Scores by Engagement with Research (i.e., reading)

	Engagement <i>with</i> Research	N	Mean Rank	Mann Whitney U	Z	P (2- tailed)
Reasoning	Low	21	19.26	173.500	-.711	.477
	High	19	21.87			
Reaching Judgement	Low	21	21.38	181	-.507	.612
	High	19	19.53			
Systematicity	Low	21	21.12	173.500	-.732	.464
	High	19	19.82			
Open- mindedness	Low	21	17.88	149	-1.397	.162
	High	19	23.39			
Search Evidence	Low	21	18.10	186.500	-.369	.712
	High	19	23.16			
Search the Truth	Low	21	19.26	144.500	-1.521	.128
	High	19	21.87			
MCTDS TOTAL	Low	21	19.33	175	-.665	.506
	High	19	21.79			
	Total	40				

The results indicated that there were no statistically significant differences in overall critical thinking disposition (MCTDS TOTAL) or any of its sub-dimensions based on participants' engagement *with* research ($p > .05$ in all cases). Although the high engagement group had higher mean ranks across all sub-dimensions, suggesting a tendency toward greater critical thinking disposition, these differences were not statistically significant. The largest difference was observed in the Open-mindedness sub-dimension, where the high engagement group (Mean Rank = 23.39) had a higher mean rank than the low engagement

group (Mean Rank = 17.88), but this difference was not statistically significant ($U = 149$, $Z = -1.397$, $p = .162$). A similar pattern was observed in the Search for the Truth sub-dimension, with the high engagement group (Mean Rank = 21.87) ranking higher than the low engagement group (Mean Rank = 19.26), though this difference was also not statistically significant ($U = 144.500$, $Z = -1.521$, $p = .128$). In terms of overall critical thinking disposition, the high engagement group (Mean Rank = 21.79) had a higher mean rank than the low engagement group (Mean Rank = 19.33), yet this difference was not statistically significant ($U = 175$, $Z = -0.665$, $p = .506$) either. Overall, these findings suggest that while participants who engaged more with research tended to have higher critical thinking disposition, their engagement levels did not lead to statistically meaningful differences.

Findings related to Mann-Whitney U test results for critical thinking disposition scores by engagement *in* research are detailed in Table 32.

Table 32

Mann-Whitney U Test Results for MCTDS Scores by Engagement in Research (i.e., doing)

	Engagement <i>in</i> Research	N	Mean Rank	Mann Whitney U	Z	P (2- tailed)
Reasoning	Low	25	18.92	148	-1.115	.265
	High	15	23.13			
Reaching Judgement	Low	25	20.20	180	-.212	.832
	High	15	21			
Systematicity	Low	25	20.94	125.500	-1.801	.072
	High	15	19.77			
Open- mindedness	Low	25	18.76	175	-.357	.721
	High	15	23.40			
Search Evidence	Low	25	20	176.500	-.322	.748
	High	15	21.33			
Search the Truth	Low	25	18.02	144	-1.241	.215

	High	15	24.63			
MCTDS TOTAL	Low	25	19.12	153	-.966	.334
	High	15	22.80			
	Total	40				

The results indicated that there were no statistically significant differences in critical thinking disposition, as measured by the MCTDS total score and its sub-dimensions, between participants with low and high engagement *in* research ($p > .05$ in all cases). Although the high engagement group had higher mean ranks across most sub-dimensions, suggesting a tendency toward a stronger critical thinking disposition, these differences were not statistically significant. The largest difference was observed in the Search for the Truth sub-dimension, where the high engagement group (Mean Rank = 24.63) had a higher mean rank than the low engagement group (Mean Rank = 18.02), but this difference was not statistically significant ($U = 144$, $Z = -1.241$, $p = .215$). A notable difference was also found in the Systematicity sub-dimension, where the low engagement group (Mean Rank = 20.94) had a slightly higher rank than the high engagement group (Mean Rank = 19.77), yet this difference remained non-significant either ($U = 125.500$, $Z = -1.801$, $p = .072$). Similarly, in terms of overall critical thinking disposition, the high engagement group (Mean Rank = 22.80) had a higher mean rank than the low engagement group (Mean Rank = 19.12), but this difference was not statistically significant ($U = 153$, $Z = -0.966$, $p = .334$). Overall, while participants with higher engagement *in* research tended to have greater critical thinking dispositions, particularly in the Search for the Truth sub-dimension, the findings suggest that research engagement did not vary significantly across critical thinking dispositions in this sample.

4.8. Findings Related to Chi-Square Test Results

To examine the relationship between participants' research engagement (with/in) and their personality traits, a chi-square test of independence was conducted. Findings regarding the chi-square test results are demonstrated in Tables 33 and 34.

Table 33

Engagement with Research (i.e., Reading) Level Personality Traits Crosstabulation*

	Extraversi on	Agreeablen ess	Conscientiousn ess	Negative Emotional ity	Open- mindedne ss	Total
Low Engagem ent	2 (5%)	8 (20%)	8 (20%)	2 (5%)	1 (2.5%)	21
High Engagem ent	3 (7.5%)	7 (17.5%)	6 (15%)	1 (2.5%)	2 (5%)	19
Total	5	15	14	3	3 (7.5%)	40 (100 %)
Chi- Square Results	$\chi^2:1.122$	df:4	p: .891			

As shown in Table 33, the results indicated that the distribution of personality traits was relatively similar across both engagement groups. Agreeableness and Conscientiousness were the most common traits in both groups, with slight variations in their distribution. Despite some variation in frequencies, the Chi-Square test results did not reveal a statistically significant association between personality traits and research engagement ($\chi^2 = 1.122$, $df = 4$, $p = .891$). This suggests that personality traits were not significantly related to participants' level of engagement *in* research.

Table 34

*Engagement in Research (i.e., Doing) Level * Personality Traits Crosstabulation*

	Extraversi on	Agreeablen ess	Conscientiousn ess	Negative Emotional ity	Open- mindedne ss	Total
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Low Engagement	3 (7.5%)	8 (20%)	8 (20%)	2 (5%)	1 (2.5%)	25
High Engagement	2 (5%)	7 (17.5%)	6 (15%)	1 (2.5%)	2 (5%)	15
Total	5	15	14	3	3 (7.5%)	40 (100%)
Chi-Square Results	$\chi^2:1.742$	df:4	p: .783			

Upon examining engagement *with* research, the focus now shifted to examining engagement *in* research. As seen in Table 34, while agreeableness and conscientiousness were the most prevalent traits in both groups, their distribution showed minor differences. Similar to the findings regarding engagement *with* research, the analysis revealed no significant relationship between personality traits and research engagement ($\chi^2 = 1.742$, $df = 4$, $p = .783$), suggesting that personality traits were evenly distributed across both groups and did not appear to influence research engagement levels.

4.9. Findings Regarding Spearman Correlation Test Results

To examine the relationship between Big Five personality traits, research self-efficacy, and critical thinking dispositions, a Spearman's correlation analysis was performed.

Findings regarding the correlation matrix of personality traits, research self-efficacy, and critical thinking dispositions are displayed in Table 35.

Table 35

Correlation Matrix of Personality Traits, Research Self-Efficacy, and Critical Thinking Dispositions

Variable	RSE	CTD
1. Extraversion	.369*	.437**
2. Agreeableness	.071	-.032
3. Conscientiousness	.117	.371*
4. Negative Emotionality	.053	.342*
5. Open-mindedness	.181	.440**

Note. * denotes a statistical significance at the 0.05 level ($p < .05$); ** denotes a statistical significance at the 0.01 level ($p < .01$.) RSE = Research Self-Efficacy, CTD = Critical Thinking Dispositions

As illustrated in Table 35, the analysis identified several significant correlations among personality traits, research self-efficacy, and critical thinking dispositions. First, a positive and moderate correlation was observed between *the Extraversion* domain and research self-efficacy ($r = .369$, $p < .05$). In contrast, the remaining domains namely, *Agreeableness*, *Conscientiousness*, *Negative Emotionality*, and *Open-Mindedness* did not exhibit a statistically significant relationship with research self-efficacy. However, while *Open-mindedness* demonstrated a positive correlation with research self-efficacy ($r = .181$) the relationship was not statistically significant ($p = .264$).

When the relationship between personality traits and critical thinking dispositions was examined, the findings revealed a strong positive correlation between the *Open-Mindedness* domain ($r = .440$, $p < .01$) and critical thinking dispositions. Additionally, moderate positive correlations were identified for the *Extraversion* domain ($r = .437$, $p = .01$) and the *Conscientiousness* domain ($r = .371$, $p < .05$) with critical thinking dispositions. In contrast, while a moderate positive correlation was observed between the *Negative Emotionality* domain and critical thinking dispositions ($r = .342$, $p < .05$), no significant correlation was found for the *Agreeableness* domain ($r = -.032$, $p = .846$).

Upon examining the relationship between research self-efficacy and critical thinking dispositions, a moderate positive relationship ($r = .406$, $p < .01$) was observed. This result

indicated that participants who have greater confidence in their research skills are also more likely to exhibit strong critical thinking dispositions.

Overall, the findings revealed distinct patterns among three constructs namely personality traits, research self-efficacy, and critical thinking dispositions. *Extraversion* and *Open-mindedness* domains correlated consistently with both variables which emphasizes their central role. However, the *Agreeableness* domain had no significant correlation with either variable. It is reasonable to state that certain personality traits are effective in fostering participants' critical thinking dispositions and self-efficacy in research.



CHAPTER V

DISCUSSION AND CONCLUSION

This final chapter presents a discussion of the findings related to teachers' engagement research, their research self-efficacy, personality traits, and critical thinking dispositions, and the relationship among these variables. Additionally, conclusive remarks are presented in consideration of the limitations and implications of the study.

5.1. Discussion

This study sought to examine in-service EFL teachers' research engagement and explore the factors that might be potentially relevant to their engagement. With this in mind, the research engagement of in-service EFL teachers, the first research question (RQ1) aimed to explore in-service EFL teachers' research engagement by examining their level of engagement, including both engagement *with* (i.e., reading) and *in* (i.e., doing) research, the type of resources they read (e.g., journals, books, etc.), the perceived impact of their engagement on their teaching practice, as well as their motivations or reasons for engaging (or not engaging) with and in research. The findings offered valuable insights into these aspects and shed light on both the extent and nature of their research engagement. To start with, the findings revealed low to moderate levels of research engagement overall, with web-based sources being the most preferred resource. Barriers such as time constraints, perceived impracticality of research, and limited access were reported, while motivations for engagement included improving teaching practices, professional growth, and addressing classroom challenges. These findings provide valuable insights into the complexities of research engagement among in-service EFL teachers, highlighting both the motivations and obstacles they encounter.

According to the findings of the research engagement questionnaire, in-service EFL teachers tended to rarely or sometimes read research, indicating low to moderate levels of engagement *with* research (see Table 2). This finding aligns with the earlier studies, including those by Ahmed and Pervin (2013), Borg (2009), and Borg and Liu (2013), who similarly

reported limited teacher engagement regarding reading research. Despite the low overall engagement, a small proportion of in-service EFL teachers reported being frequently engaged *with* research and those who said that they read research were further questioned about what they read. Web-based sources of research and professional journals were the most common sources that were preferred by teachers. This finding aligns with those of Kutlay's (2013) study, which explored university instructors' conceptions of research and revealed that web-based sources were the most preferred resource. Web-based resources are highly popular among teachers, likely due to their practicality, as they provide unrestricted access and can be utilized anytime and anywhere. Also, probably the simpler language that is used in web-based sources contributes to their popularity among teachers.

Building on these insights into teachers' reading habits, the next question was based around the barriers to engagement *with* research. Thus, the participants who did not engage *with* research or were rarely engaged were further surveyed to explore the reasons behind not reading research wherein they cited several factors as justifications. The most commonly cited barriers included lack of time, finding published research impractical, and limited access to resources for reading research. These findings are consistent with those of Al-maamiri et al. (2017), Borg (2009), and Sadeghi and Abutorabi (2017), who highlighted time constraints, practical relevance, and limited access to research as key obstacles contributing to the lack of research engagement. Furthermore, Sato and Loewen (2019) emphasized the issue of access to research as a key barrier to engagement, noting that some teachers could only access articles through the libraries of their previous institutions. The qualitative data further supported these findings, revealing similar barriers to research engagement. Participants mentioned reasons such as time constraints, difficulties in accessing resources, and a lack of motivation or interest. These reasons align closely with those identified in the quantitative data and previous studies (e.g., Al-maamiri et al., 2017; Borg, 2009; Sadeghi and Abutorabi, 2017). Also, as highlighted in previous studies (e.g., Sadeghi and Abutorabi, 2017; Tavakoli and Howard, 2012), teachers often perceive published research inadequate in addressing the practical challenges of the classroom or offer readily applicable advice. Moreover, the perception that research is overly complex or repetitive was another challenge experienced by teachers. This might be due to their limited understanding of research-related terminology, statistical concepts, or simply the academic language commonly used in research papers. That teachers do not engage *with* research that much could be explained by such barriers.

Following the exploration of barriers, the study also delved into the perceived impact of reading research on teachers' practice. When the participants were asked to rate the potential influence of reading research on their teaching, the majority reported slight to moderate levels of influence (see Table 4), which aligns with the findings of Borg and Liu (2013) who conducted a study in the Chinese context focusing specifically on College English teachers' engagement *in* and *with* research, their reasons for engagement, and the research culture within their institution. However, these findings contrast with those of Everton et al. (2000), whose study, conducted in the British context, revealed that teachers believe reading research has a significant impact on both their teaching and perspectives. This difference could be attributed to contextual and demographic variations, as well as potential differences in educational policies and research culture. The teachers in Everton et al.'s (2000) study have higher academic qualifications (e.g., master's degree), with most of them having extensive experience in research, while the teachers in this study had limited exposure to research, mainly during their bachelor's degree. This could result in greater awareness of the benefits of research among the teachers in Everton et al.'s (2000) study and allow them to perceive a stronger impact of research on their teaching practices. Additionally, differences in professional development opportunities, access to research, and the level of encouragement for research within educational policies could explain this contrast between the groups of participants, as the UK and Turkey have different perspectives and approaches on this issue. Upon being asked about the impact of reading on their practice, teachers were also surveyed regarding their motivations for reading research. Their motivations included staying up to date with developments in their profession, improving their teaching practices, satisfying personal curiosity, supporting students' success and engagement, and, lastly, fulfilling an obligation (see Table 9).

Besides teachers' engagement *with* research, the study also investigated their involvement specifically *in* conducting research. When teachers' engagement *in* conducting research was examined, the findings revealed that a significant portion of participants demonstrated low levels of engagement, with 62.5% indicating that they never or rarely engaged in research activities (see Table 6). However, a smaller yet noteworthy proportion of participants (37.5%) reported engaging *in* research sometimes or often (see Table 6). This is in line with the studies of Ahmed and Pervin (2013) and Mehrani (2015), which similarly reported low to moderate levels of engagement *in* research, with the former focusing on English-language teachers at various primary and high schools in Bangladesh, and the latter on Iranian English

teachers. Likewise, Sadeghi and Abutorabi (2017) who investigated Iranian EFL teachers' research engagement reported low to moderate levels of research engagement. This result suggests that while the majority of in-service EFL teachers have limited involvement in research practices, a minority does engage with research to a certain extent.

In order to foster a better understanding of the motivations teachers hold for research engagement, the study sought further insights. The teachers who were engaged *in* research, albeit few in number, were further asked about the motivations for their engagement. Qualitative findings revealed that participants were primarily engaged in research to discover better teaching methods, enhance their professional development, solve classroom problems, and find personal enjoyment in the process. It seems that having a personal feeling of fulfillment contributes to their involvement in research as well. Correspondingly, the qualitative data corroborated these findings and provided deeper insights into the underlying motivations. Participants underscored the pursuit of more effective teaching methods, PD, and problem-solving in educational contexts as primary drivers. Moreover, staying updated on recent developments was expressed as a significant factor influencing their involvement in research. These findings align with some earlier studies. Borg (2009), for instance, likewise identified better teaching practices, addressing classroom challenges, and supporting professional growth as key motivators for teachers' research engagement. Similarly, Gao et al. (2011), in their study conducted with Chinese primary school English teachers, noted that teachers primarily engaged in research to improve their teaching practices and foster professional growth. In fact, their study also found that some teachers engaged in research to meet institutional standards, a finding that contrasts with the results of the present study. In the Turkish context, none of the participants cited such a motivation, which might be attributed to the fact that conducting research is neither a requirement nor an aspect evaluated by schools. This difference might suggest that institutional obligations could play a significant role in shaping teachers' research engagement *in* educational contexts.

Upon examining the motivations for engagement *in* research, the study also delved into the reasons behind teachers' disengagement. Participants who reported "never" or "rarely" for engaging *in* research were further asked about the reasons for their disengagement. The majority of participants cited lack of time as the primary barrier, a finding consistent with the studies of Allison and Carey (2007), Borg (2009), and Sönmez Boran (2018). Time constraints are often attributed to teachers' heavy workloads, inflexible schedules, and, most

notably, the lack of collaborative or supportive school cultures. As Sönmez Boran (2018) noted, lack of administrative support, heavy workloads, and issues related to school culture are among the most significant demotivating factors for research disengagement. Another common reason cited by the teachers was the perception that their primary role is teaching, not conducting research. Unfortunately, this perspective is very prevalent among teachers; they appear to believe that teachers and researchers are two diverse groups and should have different responsibilities. Sato and Loewen (2022) highlighted this gap between research and practice, emphasizing that teachers and researchers are often perceived as belonging to two distinct groups. They advocated for a practice-based approach to bridge this gap and argued that being a teacher should not prevent teachers from being involved in research activities that are very valuable for their practice. Additionally, some in-service EFL teachers cited a lack of cooperation from students when attempting to conduct research. This challenge highlights a broader issue related to contextual factors, such as resistance from students, colleagues, or administrators, which creates obstacles that hinder teachers' engagement *in* research.

Continuing with the barriers, the qualitative data supported the insights gained from the questionnaire and offered additional insights into the barriers faced by in-service EFL teachers. They highlighted similar reasons including time constraints, lack of knowledge or guidance, insufficient motivation or interest in research, contextual challenges, and perceptions of research being impractical or overly complex. Similar findings regarding a lack of interest in research were also echoed in Beycioğlu's (2010) study, where one-third of the participants reported that they had never been interested in research. In line with this, Borg and Liu (2012) and Alhassan et al. (2020) identified personal factors, such as motivation and a general lack of interest as key influences on teachers' engagement *in* research. In accordance with Gao et al.'s (2011) study, teachers mentioned their lack of confidence in their research knowledge. Nevertheless, different from the present study, the teachers additionally mentioned their lack of confidence in their English competency as a significant barrier preventing them from engaging effectively *in* research.

In addressing the second research question (RQ2), the study expanded into examining teachers' research self-efficacy in conducting research. The findings indicated that the majority of participants perceived themselves as having moderate to high self-efficacy in their research skills and knowledge, as reflected in their scores (see Table 13). Teachers felt particularly self-efficacious in their knowledge of ethical guidelines, to exemplify, they felt

assured in adhering to ethical guidelines when collecting and analyzing data. Additionally, they reported self-efficacy in discussing the results, reviewing the literature, and forming a research problem, as well as in accessing the necessary resources for reviewing the literature related to the research problem they had decided to work on.

Regarding research question 2.1.a. (RQ2.1.a.), the relationship between research self-efficacy and research engagement (both “with” and “in”) was examined, and the Mann-Whitney U test results revealed no statistically significant differences. This finding contrasts with the results of Rahimi and Weisi’s (2018) study, which investigated 150 EFL teachers to explore the relationship between their research self-efficacy, reflective practices, and research engagement. Their study identified a significant positive relationship among reflective practices, self-efficacy, and research engagement, highlighting a notable divergence from the present study. This difference between studies or the absence of a relationship in this study might be attributed to the difference in participant backgrounds. While the present study focuses on Turkish in-service EFL teachers, Rahimi and Weisi (2018) examined teachers from diverse national contexts, including Iran, Indonesia, Japan, and Thailand. Various contextual factors, such as educational contexts, institutional support, work schedules, and other external or personal influences may have contributed to this outcome.

Following the analysis of research self-efficacy, teachers’ personality traits were investigated. According to findings (see Table 20), the *Agreeableness* domain showed the highest mean scores among all the domains, indicating that participants are compassionate, kind, and respectful toward others. Similarly, *Conscientiousness*, which reflects responsibility and reliability, *Open-mindedness*, representing openness to new experiences and ideas, and *Extraversion*, signifying sociability and comfort in interactions, also displayed high mean scores. Compared to other domains, *Negative Emotionality* had the lowest mean score implying that although participants experience stress, anxiety, or negative emotions from time to time, they are generally able to keep these emotions under control. As planning and carrying out research could be a stressful process, having low scores in this domain could be an advantage in conducting research. Overall, teachers’ personality traits display a cooperative, open-minded, conscientious, and emotionally stable profile. This finding is consistent with those of Unaldi et al. (2013), who also examined the personality traits of Turkish EFL teachers. Similar to the present study, his findings indicated that agreeableness had the highest score among all domains, followed by conscientiousness,

openness to experience, and extraversion, whereas neuroticism had the lowest score. This similarity suggests that certain personality traits may be prevalent among Turkish EFL teachers, and it might potentially influence their professional actions.

Upon examining the relationship between personality traits and research engagement, the Chi-square test results demonstrated no significant relationship (see Tables 33 and 34). This finding aligns with those of Bahrami and Hosseini (2023) as their findings also did not offer a direct relationship between personality traits and TRI. Nonetheless, some personality traits such as *Openness to Experience*, *Conscientiousness*, *Agreeableness*, and *Neuroticism* domains were identified as significant predictors of the motivational constructs, which in turn predicted teacher research involvement. Thus, the relationship between personality traits and teacher research engagement appears to be mediated by other factors rather than being a direct association.

In addressing the research question 2.1.b (RQ2.1.b.), as the final variable, teachers' critical thinking dispositions were examined. Findings demonstrated that in-service EFL teachers scored the highest mean scores in *Reasoning* and *Reaching Judgement* sub-dimensions (see Table 22). This suggests that participants possess a strong ability to think logically, evaluate the information, and make informed decisions based on the conclusions they draw. Similar to the previous sub-dimensions, *Systematicity*, reflecting participants' preference for being organized and methodical, and *Open-mindedness*, representing their receptiveness to diverse opinions and perspectives, also exhibited relatively high mean scores. The remaining sub-dimensions, namely *Searching for Evidence* and *Searching for the Truth*, also demonstrated similarly high results, aligning with the patterns observed in the other sub-dimensions. Overall, participants displayed high critical thinking dispositions which illustrates their inclination to utilize critical thinking skills. To the best of the researcher's knowledge, no studies have specifically focused on EFL teachers. However, findings from a previous study conducted with nurses present a contrasting perspective. Profetto-McGrath, Hesketh, Lang, and Estabrooks (2003) identified a significant positive correlation between critical thinking dispositions and research utilization among nurses. This difference may be attributed to domain-specific factors influencing the relationship between these variables.

In relation to the research question 2.2. (RQ2.2.), the study also explored the potential relationship among teachers' personality traits, critical thinking dispositions, and research self-efficacy through utilizing Spearman's correlation. The analysis revealed that some personality traits exhibit significant positive relationships with both research self-efficacy

and critical thinking dispositions. Firstly, the *Extraversion* domain displayed a moderate positive correlation with both research self-efficacy and critical thinking dispositions (see Table 35), suggesting that teachers who are sociable, energetic, and assertive tend to feel more confident in their research abilities and demonstrate stronger critical thinking dispositions. This finding emphasizes the role of outgoing and proactive behavior in enhancing both analytical and research-related skills. Similarly, the *Conscientiousness* domain similarly reflected a significant positive correlation between research self-efficacy but not with critical thinking dispositions. This indicates that organized and disciplined individuals are more likely to demonstrate strong critical thinking abilities. However, their conscientiousness is not necessarily linked to higher confidence in research activities. This difference might be due to the distinct skills required for research and critical thinking. In contrast, *Negative Emotionality* correlated positively with critical thinking dispositions but not with research self-efficacy. This result suggests that individuals who experience emotional instability or stress may still possess strong critical thinking dispositions. However, while emotional stress might encourage reflective and analytical thinking, it does not appear to enhance confidence in research abilities. This finding diverges from Clifford's (2004) study, which reported no significant relationship between *Negative Emotionality* and critical thinking skills. Additionally, *Open-mindedness* demonstrated a significant positive correlation with both research self-efficacy and critical thinking dispositions. This finding highlights the role of intellectual curiosity and receptiveness to new and different ideas in fostering both research self-efficacy and critical thinking dispositions. In this regard, *Open-mindedness* seems to be a key personality that supports both reflective thought and confidence in research abilities. This aligns with Clifford et al.'s, (2004) study, which investigated personality traits and critical thinking skills of college students and found that *Openness to Experience* significantly contributes to critical thinking levels among college students. In contrast to the other domains, the *Agreeableness* domain did not exhibit any significant relationship with either research self-efficacy or critical thinking dispositions. This finding might imply that while agreeableness reflects traits such as kindness and cooperativeness, these characteristics may not directly influence critical thinking dispositions or research self-efficacy. It can be concluded that *Agreeableness* has a weaker predictive role in academic and research-related tasks.

5.2. Conclusion

This study examined in-service EFL teachers' research engagement, focusing on their levels of engagement (both *with* and *in* research), motivations, barriers, and the perceived impact on their teaching practices. The results indicated that teachers showed low to moderate engagement *with* research, with some barriers limiting their participation. Engagement *in* research remained at low levels, though a few teachers reported involvement. This suggests that while teachers value staying informed, they face challenges in actively engaging in research. These findings highlight the need for greater support and efforts to connect research with classroom practice.

Despite reporting low to moderate levels of engagement, the majority of them reported moderate to high levels of self-efficacy in their research skills. The study also explored whether research engagement differed between high and low engagement groups, but no statistically significant differences were found in total research self-efficacy scores. However, the Conceptual/Theoretical Framework factor showed a significant difference between the groups. Additionally, although teachers demonstrated strong critical thinking dispositions, research engagement did not vary based on their critical thinking disposition either. Similarly, no significant differences in research engagement were found across personality traits. Nonetheless, traits such as Openness to Experience, Conscientiousness, and Extraversion showed significant positive correlations with research self-efficacy and critical thinking dispositions, indicating that these personality traits may shape teachers' confidence in research tasks and their analytical thinking abilities.

A key takeaway from these findings is that while teachers exhibit a degree of self-efficacy in their research skills and possess strong critical thinking dispositions, these factors do not appear to directly lead to active research engagement. Contextual factors, including time constraints or institutional support, may play a more decisive role in influencing teachers' research engagement levels. Further research is needed to explore these mediating factors in greater depth.

While these findings provide valuable insights into teachers' research engagement, they also highlight important implications, limitations, and directions for future research, which are presented in the following sections.

5.2.1. Implications

The findings of this study highlight several key factors that influence teachers' research engagement, including access to resources, time constraints, and perceptions of research. Addressing these issues requires coordinated efforts from policymakers, school administrators, and teacher training programs to create a more supportive environment for teacher research engagement. Firstly, to address the contextual factors, limited access to resources must be improved. policymakers should take steps to improve access to research materials by negotiating agreements with academic publishers and funding open-access databases for teachers. Many teachers reported difficulties in accessing research papers due to restrictions or expensive paywalls. For this reason, policymakers should invest in resources and enhance the accessibility of research materials for teachers.

Secondly, time constraints were identified as a major barrier to research engagement. This highlights the need for schools and educational institutions to create environments that facilitate and support engagement *in* PD activities, such as research. To address this, educational institutions should incorporate research time into teachers' workloads by allocating dedicated time for research activities and PD. This should also influence the design of structured PD programs, ensuring they offer flexible schedules to meet the teachers' needs. To address this issue, educational administrators can provide solutions by offering teachers adequate support and reducing the burden of demanding schedules. Through these adjustments, teachers may feel more motivated to be involved in research activities.

Another key challenge was that teachers often perceive research as impractical and disconnected from classroom realities or overly complex, making it difficult for them to engage. This underscores the need to bridge the gap between research and practice. Researchers should prioritize providing concrete, ready-to-implement strategies that teachers can easily apply in their classrooms. Also, PD workshops or seminars could be beneficial in explaining how to interpret academic research and draw actionable conclusions for classroom application.

Another issue identified in the findings of this study was that teachers do not view themselves as researchers, which contributes to their reluctance to embrace research as part of their professional identity. To address this, teacher education programs should place more

emphasis on research methodologies, not just through a single course but integrated throughout the curriculum. By familiarizing teachers with research during teacher education programs, research should be viewed as an integral part of teachers' professional roles. In this way, teachers could find it more practical and accessible.

Finally, a lack of student collaboration was cited as a factor limiting teachers' research engagement. School administrators should foster a supportive research culture that includes both teachers and students by introducing student-led research projects and collaborative teacher-student inquiry initiatives. Encouraging students to take part in research projects with their teachers could create a more dynamic and meaningful research experience in the educational setting.

Overall, by implementing these measures, stakeholders in education can create a more supportive environment for teacher research engagement, ultimately enhancing both teaching and learning.

5.2.2. Limitations and Suggestions

This study has several limitations that should be considered. First, the sample size and representativeness of the participants restrict the generalizability of the findings. The study was conducted with only 40 in-service EFL teachers, all of whom were graduates of a single-state university. As a result, the findings may not adequately represent in-service teachers from different institutions or contexts. To address this limitation and enhance the quality of future research, subsequent studies should involve larger and more diverse groups of in-service teachers from various institutions to improve the representativeness and generalizability of the findings.

Additionally, the study examined teachers' research engagement at a single point in time. It is possible that this cross-sectional approach provides a limited understanding of the dynamics of their engagement and how it might evolve over time. To overcome this limitation and strengthen future research, conducting longitudinal studies could offer valuable insights into how teachers' research engagement evolves over time and interacts with variables such as self-efficacy, personality traits, and critical thinking dispositions. Also, investigating other factors, such as intrinsic motivation, could reveal additional

determinants of research engagement and deepen our understanding of teachers' research involvement.

Furthermore, participant selection criteria may have introduced additional limitations. The participants were required to have prior research experience, which could vary significantly in terms of quality and outcomes (e.g., positive or negative experiences). These differing experiences might have influenced the level or nature of their research engagement, introducing potential bias to the results. To mitigate this limitation, future research could consider broadening participant selection criteria to include individuals with varying levels of research experience.

Another limitation of this study is that the qualitative data was collected through open-ended questions, which may not have provided as rich or detailed insights as interviews or focus groups would have. While the open-ended responses contributed valuable qualitative data, using interviews or focus groups could offer a richer understanding of teachers' attitudes, motivations, and perceived barriers to research engagement. It might enhance quantitative findings with nuanced qualitative data.

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APPENDICES

Appendix A

Participant Information Sheet

Link to the Online Instruments: <https://forms.gle/umxSoQvcR72T9Zak8>

Dear participant,

I am Seda Boy, a Master of Arts (M.A.) student in the English Language Education Program at Sakarya University. I am conducting a research titled "Research Engagement of EFL Teachers: Exploring Potential Reasons and Variants" within the scope of my M.A. thesis which I am preparing under the supervision of Assist. Prof. Dr. Merve Savaşçı.

This study aims to investigate Turkish English as a Foreign Language (EFL) teachers' research engagement, and the factors that potentially influence their engagement. In order to participate, you must be a graduate of Sakarya University ELT Department.

There is no known risk to the participants of this study. Your participation in this study is completely voluntary and the information obtained from this study will be used entirely for research purposes and your personal information will be kept confidential. You have the right to withdraw from the research at any time at any stage of the research.

Your participation is extremely valuable and the results of the research will contribute to future studies on EFL teachers' research engagement.

If you have any questions or concerns, please feel free to contact me.

Thank you very much.

*Ethical approval for this study was obtained from the Sakarya University Rectorate Ethics Committee. The study with the number E-61923333-050.99-376330 was approved on 04.07.2024.

Appendix B

Demographic Information

1. Are you a graduate of the ELT department at Sakarya University?
 - Yes
 - No
2. What is the latest degree you obtained?
 - Bachelor's degree
 - Master of Arts (M.A.) degree
 - Doctor of Philosophy (Ph.D.)
3. Did you conduct research when you took the Research Methods course as an undergraduate student?
 - Yes
 - No
4. Years of Teaching Experience (How long have you been teaching? - in years): _____
5. Where are you teaching now?
 - State School
 - Private School
 - I am a private tutor
 - I do not teach now
6. What is the grade level of the students you teach? (You can tick more than one option if need be)
 - Primary school (1st grade-4th grade)
 - Middle school (5th grade-8th grade)
 - High school (9th grade-12th grade)
 - University
 - I do not teach now
7. Your age: _____
8. Gender
 - Female
 - Male
 - Prefer not to say

Appendix C

English Language Teachers' Views of Research Questionnaire

Section 1 Reading Research

1. How frequently **do you read** published language teaching research? (Tick ONE)

- Never
- Rarely
- Sometimes
- Often

Section 1.1.

2. You said that you **read** published language teaching research **often** or **sometimes**.

Which of the following do you read? (Tick all that apply)

- Books
- Academic Journals (e.g. TESOL Quarterly)
- Professional Journals (e.g. ELT Journal)
- Professional Magazines (e.g. ET Professional)
- Newsletters (e.g. IATEFL SIG Newsletters)
- Web-based sources of research
- Other

3. To what extent does the research you **read** influence your teaching? Choose **ONE**.

- It has no influence on what I do in the classroom.
- It has a slight influence on what I do in the classroom.
- It has a moderate influence on what I do in the classroom.
- It has a fairly strong influence on what I do in the classroom.
- It has a strong influence on what I do in the classroom.
- Other

Section 2.2.

4. In Question 1 of this section you said that you read published research **rarely** or **never**.

Here are some possible reasons for this. Tick those that are true for you. (You can tick more than one option)

- a. I am not interested in research.
- b. I do not have time.
- c. I do not have access to books or journals.
- d. I find published research hard to understand.
- e. Published research does not give me practical advice for the classroom.
- f. Other

Section 3 DOING RESEARCH

1. How frequently do you **DO** research yourself? (Tick ONE)

- Never
- Rarely
- Sometimes
- Often

Section 3.1

2. You said you do research **often** or **sometimes**. Below are a number of possible reasons for doing research. Tick those which are true for you. (You can tick more than one)

"I DO research . . ."

- a. As part of a course I am studying on
- b. Because I enjoy it
- c. Because it is good for my professional development
- d. Because it will help me get a promotion
- e. Because my employer expects me to
- f. Because other teachers can learn from the findings of my work
- g. To contribute to the improvement of the school generally
- h. To find better ways of teaching
- i. To solve problems in my teaching
- j. Other

Section 3.2.

3. You said that you do research **rarely** or **never**.

Below are a number of possible reasons for **not doing** research. Tick those which are true for you. (You can tick more than one)

"I DON'T do research because . . ."

- a. I do not know enough about research methods.
- b. My job is to teach not to do research.
- c. I do not have time to do research.
- d. My employer discourages it.
- e. I am not interested in doing research.
- f. I need someone to advise me but no one is available.
- g. Most of my colleagues do not do research.
- h. I do not have access to the books and journals I need.
- i. The learners would not co-operate if I did research in class.
- j. Other teachers would not co-operate if I asked for their help.
- k. Other

Appendix D

Open-ended Questions

Question 1: Why do you engage with **(read)** research? What is your motivation for **reading** research?

Question 2: Why don't you engage with **(read)** research? What is your reason for **not reading** research?

Question 3: Why do you engage in **(do)** research? What is your motivation for **doing** research?

Question 4: Why don't you engage in **(do)** research? What is your reason for **not doing** research?

Appendix E

Research Self-Efficacy Scale

- Item 2 I can identify the problem that I plan to do scientific research on by reviewing the existing literature.
- Item 3 I can determine the problem I plan to do scientific research by discussing it with other researchers.
- Item 4 I can access electronic and physical resources to conduct a literature review on the research problem I have identified.
- Item 5 I can do a comprehensive literature review on the research problem I have identified.
- Item 6 I can identify the theories in the literature related to the research problem I have identified.
- Item 7 I can report the synthesis of the existing studies conducted on the research problem I have determined.
- Item 8 I can decide on the appropriate theory to form the basis of my study related to the research problem I have identified.
- Item 9 I can explain the significance of my study and its place in the literature related to the research problem I have identified.
- Item 10 I know the difference between theoretical and conceptual frameworks.
- Item 11 I can identify an appropriate theoretical or conceptual framework for my study.
- Item 12 I can transform the problem I plan to research into a research question that can be studied by using scientific methods.
- Item 14 I can transform the problem I plan to research into a research question by narrowing it down to a specific area.
- Item 15 I can determine the appropriate research method (quantitative/qualitative/mixed) to find an answer to the research question I have formed.
- Item 16 I can identify an appropriate and sufficient number of participants/sample groups to answer the research question I have formed.
- Item 17 I can identify appropriate data collection tools to answer the research question I have formed.
- Item 18 I can manage data collection processes to find an answer to the research question I have formed.
- Item 20 I can analyze the collected data with the determined data analysis method in order to find an answer to the research question I have formed.
- Item 21 I can identify appropriate computer software that can assist the data analysis process to answer the research question I have formed.
- Item 22 I can effectively use the determined computer software in the data analysis process to answer the research question I have created.
- Item 23 I can interpret the findings obtained as a result of data analysis.
- Item 24 I can convey how the results I have obtained will contribute to the relevant field.
- Item 25 I can discuss the findings of my study by relating them to the existing literature.
- Item 26 I can make suggestions for future research based on the study findings.
- Item 27 I can identify and explain the limitations of my study.
- Item 30 I know the ethics committee application process is required for my study.
- Item 31 I know the quotation and citation rules when referencing different resources in my study.
- Item 32 I know the author's rights in the studies conducted with more than one researcher.
- Item 33 I know the ethical rules about the storage, use, and protection of data collected from individuals.

Appendix F

Big Five Personality Test

The Big Five Inventory–2 (BFI-2)

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who *likes to spend time with others*? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

1 Disagree strongly	2 Disagree a little	3 Neutral; no opinion	4 Agree a little	5 Agree strongly
<i>I am someone who...</i>				
1. ___ Is outgoing, sociable.				31. ___ Is sometimes shy, introverted.
2. ___ Is compassionate, has a soft heart.				32. ___ Is helpful and unselfish with others.
3. ___ Tends to be disorganized.				33. ___ Keeps things neat and tidy.
4. ___ Is relaxed, handles stress well.				34. ___ Worries a lot.
5. ___ Has few artistic interests.				35. ___ Values art and beauty.
6. ___ Has an assertive personality.				36. ___ Finds it hard to influence people.
7. ___ Is respectful, treats others with respect.				37. ___ Is sometimes rude to others.
8. ___ Tends to be lazy.				38. ___ Is efficient, gets things done.
9. ___ Stays optimistic after experiencing a setback.				39. ___ Often feels sad.
10. ___ Is curious about many different things.				40. ___ Is complex, a deep thinker.
11. ___ Rarely feels excited or eager.				41. ___ Is full of energy.
12. ___ Tends to find fault with others.				42. ___ Is suspicious of others' intentions.
13. ___ Is dependable, steady.				43. ___ Is reliable, can always be counted on.
14. ___ Is moody, has up and down mood swings.				44. ___ Keeps their emotions under control.
15. ___ Is inventive, finds clever ways to do things.				45. ___ Has difficulty imagining things.
16. ___ Tends to be quiet.				46. ___ Is talkative.
17. ___ Feels little sympathy for others.				47. ___ Can be cold and uncaring.
18. ___ Is systematic, likes to keep things in order.				48. ___ Leaves a mess, doesn't clean up.
19. ___ Can be tense.				49. ___ Rarely feels anxious or afraid.
20. ___ Is fascinated by art, music, or literature.				50. ___ Thinks poetry and plays are boring.
21. ___ Is dominant, acts as a leader.				51. ___ Prefers to have others take charge.
22. ___ Starts arguments with others.				52. ___ Is polite, courteous to others.
23. ___ Has difficulty getting started on tasks.				53. ___ Is persistent, works until the task is finished.
24. ___ Feels secure, comfortable with self.				54. ___ Tends to feel depressed, blue.
25. ___ Avoids intellectual, philosophical discussions.				55. ___ Has little interest in abstract ideas.
26. ___ Is less active than other people.				56. ___ Shows a lot of enthusiasm.
27. ___ Has a forgiving nature.				57. ___ Assumes the best about people.
28. ___ Can be somewhat careless.				58. ___ Sometimes behaves irresponsibly.
29. ___ Is emotionally stable, not easily upset.				59. ___ Is temperamental, gets emotional easily.
30. ___ Has little creativity.				60. ___ Is original, comes up with new ideas.

Appendix G

Marmara Critical Thinking Dispositions Scale

MARMARA ELEŞTİREL DÜŞÜNME EĞİLİMLERİ ÖLÇEĞİ		Hiçbir Zaman	Nadiren	Ara sıra	Genellikle	Her Zaman
		1	2	3	4	5
Akıl yürütme						
1.	Olay, fikir veya sorunlar arasındaki ilişkileri analiz ederim.					
2.	Sorun, durum veya olayları açıklamaya çalışırım.					
3.	Bir sorun, durum veya olayı tüm yönleriyle değerlendiririm.					
4.	Bir fikri, sorunu veya durumu değerlendirmeden önce yeterince bilgi toplarım.					
5.	Karşılaştığım bir fikri, bilgiyi, sorunu, olayı veya durumu sorgularım.					
6.	Olayların veya sorunların nedenini araştırırım.					
Yargıya ulaşma						
7.	Bir olay, fikir veya sorunla ilgili bilgileri benzerlik ve farklılıklarına göre sınıflandırırım.					
8.	Öğrendiğim genel bilgilerden yeni bir sonuca ulaşırım.					
9.	Bir durum, sorun veya olayla ilgili belirlediğim riskleri değerlendiririm.					
10.	Karşılaştığım bir sorunu, fikri veya olayı anlamaya çalışırım.					
11.	Tek tek ele aldığım bir fikir, olay veya durumdan genel bir sonuç çıkarırım.					
12.	Bir konu veya fikri anlamak için uygun sorular sorarım.					
Kanıt arama						
13.	Düşüncelerimi güvenilir bilgi ve güçlü kanıtlarla desteklerim.					
14.	Güvenilir ve farklı kaynaklardan bilgi edinirim.					
15.	Karşılaştığım bir fikrin veya bilginin doğruluğunu kabul etmek için güçlü kanıt ararım.					
16.	Düşüncelerimin ve eylemlerimin yanlışlığını-doğruluğunu değerlendiririm.					
Gerçeği arama						
17.	Edindiğim bilgi veya fikirleri değerlendirirken acele etmem.					
18.	Bir fikir, olay, durum veya sorunun arkasında yatan nedenleri araştırırım.					
19.	Yeni bir şey yapmak veya öğrenmek için zihinsel ve duyuşsal becerilerimi kullanırım.					
20.	Sorun veya olayları gerçekçi bir şekilde ele alırım.					
Açık fikirlilik						
21.	Sorunları çözerken veya karar verirken diğer insanların görüşlerini dikkate alırım.					
22.	Farklı fikirleri olan insanlara saygı duyarım.					
23.	Yaptığım bir hatanın veya davranışın nedenini açıklarım.					
24.	Durum, fikir veya olayları ele alırken farklı açılardan bakarım.					
Sistematiklik						
25.	Yaşadığım olaylardan veya edindiğim bilgilerden sonuçlar çıkarırım.					
26.	Bir şeyi ne zaman ve nasıl yapacağımı planlarım.					
27.	Fikirleri veya olayları değerlendirirken kendi değerlerimi dikkate alırım.					
28.	Bir fikir, olay, sorun veya durumla ilgili çıkarımlarda bulunurum.					

Appendix H

Ethics Committee Approval Document

Evrak Tarih ve Sayısı: 05.07.2024-E.376330



T.C.
SAKARYA ÜNİVERSİTESİ REKTÖRLÜĞÜ
Etik Kurulu



Sayı : E-61923333-050.99-376330
Konu : 33/11 Seda BOY

05.07.2024

Sayın Seda BOY

İlgi : 28.06.2024 tarihli ve E--050.99-0 sayılı yazınız.

Üniversitemiz Eğitim Araştırmaları ve Yayın Etik Kurulu'nun 04.07.2024 tarihli ve 33 sayılı toplantısında alınan "11" nolu karar ile Seda BOY'un başvurusu **uygun** görülmüş ve karar örneği ekte sunulmuştur.

Bilgilerinizi rica ederim.

Prof. Dr. Murat İSKENDER
Eğitim Araştırmaları ve Yayın Etik
Kurulu Başkanı

Ek: Karar Yazısı (1 Sayfa)