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Research Article

An Investigation into the Relationship Between Metacognitive Knowledge and Writing Achievement of Turkish EFL Learners

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Abstract: Writing poses a substantial yet demanding challenge for individuals learning English as a foreign language (EFL). In contemporary frameworks, this skill is characterized as a complex, recursive, strategic, and multifaceted process that engages both cognitive and metacognitive faculties. Consequently, recent decades have witnessed a burgeoning body of research spotlighting the pivotal role of metacognition in EFL writing. This study, employing an explanatory sequential mixed methods approach, set out to delve into the depth of metacognitive awareness among Turkish EFL students concerning English writing. The study encompassed a cohort of 120 Turkish EFL students at the B2 level. To gauge the participants' metacognitive understanding concerning the variables of person, task, and strategy, a questionnaire was administered. Additionally, interviews were conducted with 35 participants to augment and elucidate the quantitative findings. Analyzing the data disclosed that participants exhibited an average level of knowledge with respect to person and strategy dimensions, but they demonstrated a robust understanding of the task dimension. Further scrutiny through correlation analysis, which explored the link between students' writing achievement and their metacognitive awareness, revealed a weak positive relationship between students' writing proficiency and their comprehension of both person-related and strategy-related aspects. In contrast, there was no statistically significant correlation between task-related knowledge and writing achievement. Content analysis of the findings shed light on noteworthy disparities among high-achieving, average-achieving, and low-achieving EFL writers concerning their grasp of metacognitive knowledge. In alignment with their writing performance, high-achieving writers outperformed their counterparts in all the metacognitive subcategories.

Keywords: *Metacognition, metacognitive knowledge, EFL writing, person knowledge, task knowledge, strategy knowledge*

INTRODUCTION

Writing stands as a vital skill in the realm of EFL education, offering an array of advantages for individuals both in their academic pursuits and professional endeavors. Nonetheless, it is a cognitively intricate undertaking that demands specialized skills (Flower & Hayes, 1980; Nunan, 1989). Consequently, writing remains one of the most formidable challenges for educators to impart and for learners to master (Richards & Renandya, 2003).

In the shift from a product-oriented to a process-oriented approach to writing instruction, scholars have highlighted the pivotal role of higher-order cognitive processes in guiding and regulating the writing process. Many have emphasized the crucial influence of metacognition in shaping the writing process. Previous research has unveiled that proficient writers engage in processes characterized by substantial self-regulation and metacognitive awareness (Bereiter & Scardamalia, 1987; Flower, 1990; Flower & Hayes, 1980; Harris, Santangelo, & Graham, 2010; Ruan, 2005). In

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fact, some scholars have gone as far as defining writing as a manifestation of applied metacognition (Hacker, Keener & Kircher, 2009). Kasper (1997) posits that a majority of second language (L2) learners struggle with writing because they lack awareness of their own writing processes, the specific activities they engage in, and the means they employ to regulate these processes, primarily due to their lack of metacognitive writing skills.

However, investigations into metacognition within the domain of language learning and teaching have primarily centered on receptive skills, such as reading and listening, highlighting its substantial benefits (Devine, 1993; Vandergrift, 2002; Vandergrift & Goh, 2011). In contrast, the impact of metacognition on productive language skills, namely speaking and writing, has received relatively scant attention from scholars. Therefore, more comprehensive research is needed to address this gap.

This study gives its focus to writing for two main reasons. First, there is a growing interest among tertiary-level Turkish EFL students in enhancing their writing skill. However, many of them feel inadequately prepared for academic writing and perceive it as a formidable challenge to overcome. Their motivation for engaging in writing tasks often stems from a desire to evade potential failure or to increase their prospects of success in English exams. Second, while prior research points to the manifold benefits of metacognitive knowledge and strategies in relation to EFL writing achievement, there is a paucity of research exploring metacognition in the context of EFL writing in Türkiye. In this regard, the present study endeavors to bridge this gap and contribute to the existing body of literature on EFL writing and metacognition within the Turkish context.

THEORETICAL FRAMEWORK

Metacognition

The term "metacognition" was initially coined by American developmental psychologist John Flavell, who used it to describe an individual's "knowledge and cognition about cognitive phenomena" (Flavell, 1979, p. 906). Various scholars in the field of cognitive psychology have proposed slightly different definitions of metacognition, focusing on its various aspects. Flavell (1976) provided a straightforward definition, stating that metacognition encompasses "one's knowledge concerning one's own cognitive processes and products or anything related to them" (p. 232). He further explained that metacognition involves actively monitoring, regulating, and coordinating these processes in relation to the cognitive information they pertain to, typically in pursuit of specific goals or objectives.

Flavell (1979) was the first to establish a connection between metacognition and the learning process. Over the past nearly four decades, extensive research has been conducted across various contexts and subject areas to investigate Flavell's proposition. The exploration of metacognition holds great significance in the field of educational psychology because it offers valuable insights into the intricate cognitive processes that individuals engage in during the learning process (Devine, 1993). Metacognition has been recognized for its multifaceted benefits in facilitating individual learning. As Öz (2014) notes, metacognition stands out as one of the most reliable predictors of learning, promoting successful learning outcomes, improved academic performance, and enhanced problem-solving abilities in individuals (Öz, 2014; Schraw & Dennison, 1994; Vandergrift, 2002).

Metacognitive skills also have the potential to bolster an individual's thinking capacity (Anderson, 2002), enhance achievement in novel learning tasks (Vann & Abraham, 1990), improve overall learning outcomes (Anderson, 2002; Zimmerman & Bandura, 1994), and compensate for certain cognitive limitations or deficits in general intelligence and prior knowledge on a subject (Veenman, Wilhelm, & Beishuizen, 2004).

Wenden (1987) can be credited with introducing the concept of metacognition to the realm of language learning. She argued that metacognition played a pivotal role in language learning by fostering learner autonomy and distinguishing cognitive processes among language learners. Following her pioneering work, the role of metacognition in the development of language skills has

been extensively examined by other researchers and scholars. Furthermore, Anderson (2002) proposed that "strong metacognitive skills empower second language learners," suggesting that through metacognitive instruction, L2 learners can reflect on their learning processes, cultivate autonomy, and thus develop more robust learning skills.

Flavell's Model of Cognitive Monitoring

Flavell's Model of Cognitive Monitoring holds a pivotal place in the development of the metacognition theory, as it lays the groundwork for understanding the components and interactions within metacognition. In his model, Flavell (1979) was among the first to delineate these components and elucidate their interplay. He proposed that the monitoring of cognitive processes arises from "actions or interactions" among four key elements: (1) metacognitive knowledge, (2) metacognitive experiences, (3) goals (or tasks), and (4) actions (or strategies) (p. 906).

Metacognitive knowledge, as defined by Flavell (1979, p. 906), constitutes "that segment of your (a child's, an adult's) stored world knowledge that has to do with people as cognitive creatures and with their diverse cognitive tasks, goals, actions, and experiences". Flavell considered metacognitive knowledge to be akin to other forms of knowledge stored in long-term memory in terms of its structure and quality. Therefore, it can be learned, enriched, revised, or discarded. He further divided metacognitive knowledge into three distinct yet highly interconnected variables: person knowledge, task knowledge, and strategy knowledge. Successful learning requires individuals to possess profound insights into themselves as learners, the nature of the task at hand, and effective strategies to achieve predetermined cognitive objectives (Devine, 1993; Flavell, 1979; Kasper, 1997).The person variable pertains to individuals' self-awareness and beliefs concerning their abilities, strengths, and weaknesses in accomplishing a particular task, as well as their general understanding of human learning and information processing (Flavell, 1979; Wenden, 1998). In contrast, the task variable encompasses knowledge about the characteristics, complexity, and requirements of a given task (Flavell, 1979; Wenden, 1998). Learners equipped with task knowledge can more effectively engage with the mental, emotional, and social aspects of a task and analyze factors that impact their task performance. They can approach the task with precision, often excelling in defining their objectives and allocating the appropriate cognitive effort to fulfill those goals. Lastly, the strategy variable involves knowledge of cognitive, metacognitive, and socio-affective strategies that can be employed to efficiently complete a specific type of task. Individuals possessing strategy knowledge are adept at identifying strategies that are suitable or unsuitable for particular tasks and employing them accordingly (Flavell, 1979).

Another fundamental component in Flavell's metacognitive framework is metacognitive experiences. Flavell (1979, p. 906) characterized metacognitive experiences as "any conscious cognitive or affective experiences that accompany and pertain to any intellectual enterprise. These experiences encompass the actions individuals undertake to regulate and control their cognitive processes during learning. Metacognitive experiences provide learners with insights into their progress within a task, their current position, and potential future developments. They guide individuals in setting new goals or adjusting existing ones. In Flavell's model (1979), goals or tasks represent the actual objectives of a cognitive endeavor that may trigger the application of metacognitive knowledge and lead to metacognitive experiences. Finally, actions or strategies are specific steps or behaviors employed to achieve these goals.

Metacognitive Knowledge About Writing

Advancements in cognitive psychology have paved the way for exploring the valuable and pivotal role of metacognition in writing performance (Harris et al., 2010). These developments have also offered scholars and writing instructors a fresh perspective on writing instruction, offering innovative ways to address the challenges of composing.

As previously discussed, metacognitive knowledge encompasses three fundamental components: person knowledge, task knowledge, and strategy knowledge (Flavell, 1979). In the

context of writing, an understanding of the person relates to the various thoughts and emotions individuals harbor about themselves as writers throughout the cognitive writing process. It also encompasses perceptions of the writing environment, one's self-efficacy in writing, and motivation (Ruan, 2005, p. 182). This self-awareness plays a crucial role in enabling EFL writers to monitor their writing process effectively and develop compensatory skills when necessary (You & Joe, 2001).

Regarding writing, task knowledge pertains to one's understanding of the writing topic, familiarity with common writing conventions and rhetorical structures, coherence, awareness of the target audience, and comprehension of the purpose of the writing task. A heightened awareness of task requirements and various factors related to task knowledge significantly influences the quality and content of written work by EFL learners.

In the realm of writing, strategy knowledge involves metacognitive awareness of effective writing strategies that can be employed to achieve predetermined writing goals. Proficiency in knowing when and how to use certain writing strategies (e.g., planning, pre-writing, error monitoring, post-writing, or rereading) empowers EFL writers to enhance their skills and manage writing tasks more efficiently.

An Overview of Studies on Metacognition and ESL/EFL Writing

Metacognition has garnered significant attention from scholars in the field of L2 due to its recognized role in the learning process (Anderson, 2012; Devine, 1993). Wenden (1987) was a pioneer in highlighting the potential of metacognition in understanding the EFL learning process, setting the stage for further research. Over recent decades, research on metacognition has revealed its positive impact on language use and acquisition.

Devine, Railey, and Boshoff's (1993) study holds particular significance as one of the early attempts to delve into the cognitive models of L2 writers and assess the influence of these models on their writing achievement. Their research involved 20 first-year college students from diverse language backgrounds, with 10 students being native (L1) English speakers and the other 10 being English as a second language (ESL) writers. The study aimed to gather insights into the subjects' conceptions regarding the person, task, and strategy variables in writing. The findings indicated that L1 and L2 writers possessed different cognitive models, suggesting a potential link between these models and the actual writing performance of ESL learners.

To further clarify the relationship between metacognition and ESL writing performance, Kasper (1997) conducted a survey involving 120 ESL students from various ethnic, cultural, and linguistic backgrounds. Students were divided into two groups based on their proficiency levels, with 53 in the advanced group and 67 in the intermediate group, as determined by their TOEFL scores. Over six consecutive semesters, both quantitative and qualitative data were collected. Kasper's study not only confirmed a significant positive correlation between metacognitive variables (i.e., person, task, and strategy) and the actual writing performance of ESL students but also illuminated the varying effects of these variables at different levels of linguistic proficiency. In both groups, students who performed better in the final assessment also received higher ratings in the person, task, and strategy variables. Kasper also noted that while students' knowledge of the person and task variables did not undergo fundamental changes as they became more proficient in the language, their strategy knowledge exhibited significant growth as they progressed from the intermediate to the advanced level.

Ruan (2005) emphasized the strong connection between EFL writers' metacognitive knowledge and their writing behaviors and performance. His study examined the role of an empirically based instructional approach in developing metacognitive knowledge and skills among Chinese students for English writing. The approach incorporated self-regulatory mechanisms into the course framework, allowing students to apply goal-setting, planning, self-monitoring, self-evaluation, and revising to their writing process. Ruan's findings demonstrated that engaging EFL writers in self-regulated writing practices facilitated the development of metacognitive knowledge and skills. For instance, students' person knowledge progressed positively, leading to improved self-efficacy beliefs

and confidence as EFL writers. Task knowledge led to a better understanding of the target audience, task purposes, and cross-language differences between their L1 and L2 writing. Strategic knowledge, while not drastically altering students' planning habits, significantly improved their skills in evaluating and revising their work.

Additionally, some studies have explored the relationship between L2 writers' writing performance and the metacognitive strategies they employ in their writing processes, focusing on the regulation of cognition. For example, Panahandeh and Esfandiari Asl (2014) investigated the effects of monitoring and planning skills as metacognitive strategies on argumentative writing performance among Iranian intermediate EFL learners. Their findings demonstrated that instruction on metacognitive strategies substantially benefited these learners in their argumentative writing skills.

In an action research project, Göy (2017) examined the effectiveness of strategy instruction on EFL learners' writing achievement and self-regulation. While students were taught specific strategies, the findings revealed that they employed only a limited number of strategies and demonstrated only modest improvement in their writing.

In summary, an overview of research on metacognition in writing highlights a positive correlation between ESL/EFL learners' writing performance and their knowledge about cognition and regulation of cognition. However, there is a relatively small body of research on metacognition within the context of writing instruction, indicating a need for further investigation into the extent to which metacognition contributes to success in ESL/EFL writing.

METHODOLOGY

The present study adopted an explanatory sequential mixed methods design, following the guidelines recommended by Creswell (2014). Initially, quantitative data were collected using an inventory and subsequently subjected to analysis using the Statistical Package for Social Sciences software (SPSS). Qualitative data, on the other hand, were obtained through semi-structured interviews and underwent thematic content analysis, allowing for a deeper comprehension and interpretation of the quantitative findings.

The primary aim of this research was to investigate the extent of metacognitive knowledge regarding writing among Turkish EFL students and to explore its relationship with their writing achievement. To accomplish this objective, the study aimed to ascertain whether metacognitive knowledge played a role in influencing writing achievement.

To address these objectives, the study posed three specific research questions:

1. What is the breadth and depth of metacognitive knowledge about writing among Turkish EFL learners, with a particular focus on the person, task, and strategy variables?
2. Is there a statistically significant correlation between the writing achievements of EFL learners and their metacognitive knowledge about writing?
3. What are the specific constituents that make up the understanding of Turkish EFL writers concerning the person, task, and strategy variables in the context of writing?

Participants and Setting

The study involved a participant group consisting of 120 university students at the B2 level who were enrolled in the Intensive English Preparatory Program at a state university in Türkiye. Among these students, 69 (57.5%) were female, while 51 (42.5%) were male students, with ages spanning from 18 to 24 years old. To further delve into the research, 35 volunteers, constituting nearly 30% of the total survey respondents, were chosen to participate in interviews among the participants.

Table 1. Frequency distribution for the ages and departments of students

	Frequency	**%**

Gender		
Male	51	42.5
Female	69	57.5
Department		
Computer Engineering	27	22.5
Industrial Engineering	23	19.2
Energy Systems Engineering	11	9.2
Chemical and Process Engineering	5	4.2
Polymer Engineering	3	2.5
Transportation Engineering	26	21.6
Economics	8	6.7
Business Administration	15	12.5
Others	2	1.7

Instruments and Data Collection Procedure

Before the implementation of the study, ethics approval was obtained from the Ethics Committee of Bursa Uludağ University on 27th April 2018 (Number of the session: 2018-4). The current study employed an explanatory sequential mixed methods design, incorporating both quantitative and qualitative approaches for data collection. The data were sourced from three primary channels: an argumentative essay writing task, the Metacognitive Knowledge about Writing Survey (MKWS), and retrospective interviews. The MKWS and interview questions were adapted from the instruments developed by Xiao (2016) and underwent refinement through a pilot testing phase.

To gauge the participants' writing prowess, the study assessed their performance in argumentative essays. To delve into the metacognitive knowledge possessed by the participants regarding writing, the researchers used the MKWS. This survey utilized a 6-point Likert scale and comprised 50 items organized into three sections: person knowledge, task knowledge, and strategy knowledge. A reliability analysis conducted for each of these three sections revealed a Cronbach's alpha coefficient of .767 for person knowledge, .354 for task knowledge, and .756 for strategy knowledge. While person and strategy variables demonstrated relatively high internal reliability, the task variable exhibited lower reliability. To enhance the reliability of the task knowledge section, two items were removed, resulting in a revised questionnaire with a Cronbach's alpha coefficient of .575 for task knowledge. Although the alpha value in this case may not be considered highly satisfactory, it was deemed acceptable and sufficient, as for Taber (2018).

Furthermore, retrospective interviews were carried out to glean additional insights from the respondents regarding their perceptions of their EFL writing processes. These interviews were conducted in the native language (Turkish) of the participants to mitigate the potential confounding influence of their English proficiency on the interview results. The interview sessions consisted of nine questions categorized into three subgroups: Self-Knowledge as a Writer, Metacognitive Awareness of Writing Tasks, and Metacognitive Awareness of Strategies.

Data Analysis

To address the first research question, which sought to determine the extent of metacognitive knowledge about writing among Turkish EFL learners concerning the person, task, and strategy variables, the study employed descriptive analyses. Mean scores for the three subscales of the MKWS - specifically, the person, task, and strategy variables - were calculated and reported for all participants collectively.

Furthermore, the students were categorized into three performance groups: high-performing (HP), average-performing (AP), and low-performing (LP) writers based on their scores in the argumentative writing task. Specifically, students who scored 18 or higher were classified as belonging to the HP group (n=36), those scoring between 14 and 17.5 were assigned to the AP group (n=44), and students with scores of 13.5 or lower were designated as part of the LP group (n=40). This categorization allowed for a more detailed examination of metacognitive knowledge within different performance levels.

Table 2. Grading criteria of EFL learners' writing proficiency

Level	Mean
High	18-25
Average	14-17.5
Low	0-13.5

Additionally, mean scores for the three subscales of the Metacognitive Knowledge about Writing Survey (MKWS) were analyzed separately for each performance group to assess whether the extent of students' metacognitive knowledge differed among the high-performing (HP), average-performing (AP), and low-performing (LP) groups. The study utilized specific criteria, as presented in Table 3, to determine the level of participants' metacognitive knowledge.

Table 3. Grading criteria of metacognitive knowledge

Level	Mean	Options
High	4.40 – 6	Always true of me
		Usually true of me
Average	2.70 – 4.39	Somewhat true of me
		Somewhat not true of me
Low	1– 2.69	Usually not true of me
		Never true of me

Research question 2 aimed to investigate whether there was a significant correlation between Turkish EFL learners' writing achievement and their metacognitive knowledge about writing. To address this question, the study conducted correlation analyses.

To assess students' writing tasks, the study developed an analytic scoring rubric, which was created by the researchers. The rubric allowed for a maximum score of 25 and a minimum score of 0 for the argumentative essay tasks. Two experienced English instructors independently evaluated the participants' essays based on this rubric. Before commencing the rating process, the instructors conducted a rater norming session to establish a consensus on the use of the rubric and to ensure inter-rater reliability. The final grade for each essay was determined as the mean of the two scores assigned by the instructors and was utilized in the subsequent analyses. In cases where the two raters disagreed by three points or more on a given essay, they collaboratively re-evaluated the paper and reached a final consensus. The inter-rater reliability between the two raters was assessed using the Intraclass Correlation Coefficient, yielding a strong positive relationship between the two raters, as evidenced by the Intraclass Correlation Coefficient of .967 (see Table 4).

Participants' performances on the argumentative writing task and their responses to each item in the MKWS were scored and entered into the IBM SPSS 25.0 software package for conducting the

correlation analyses. This statistical analysis aimed to determine whether a significant relationship existed between writing achievement and metacognitive knowledge about writing.

Table 4. Inter-rater reliability

	Correlation Coefficient	%95 Confidence interval	p
Raters	0.967	0.953-0.977	<0.001**

**Correlation is significant at 0.001.

The third and final research question sought to explore the components of Turkish EFL writers' knowledge regarding the three facets of metacognitive knowledge. To gain deeper insights into students' metacognition related to writing, qualitative data were collected through retrospective interviews. A content analysis approach was employed to elucidate and interpret the qualitative data.

In the content analysis process, data from each interview were meticulously examined using a bottom-up approach. Transcriptions of the interviews were initially coded, and these codes were linked to predetermined categories, primarily based on the metacognitive framework proposed by previous researchers (including Flavell, 1985; Brown, 1987; Schraw & Moshman, 1995). The central category, metacognitive knowledge, encompassed references to the subcategories of person knowledge, task knowledge, and strategy knowledge.

Table 5. The relations between research questions and data collection instruments

Research Questions	Data Collection Instruments	Data Analyses
RQ1. What is the breadth and depth of metacognitive knowledge about writing among Turkish EFL learners, with a particular focus on the person, task, and strategy variables?	Metacognitive Knowledge about Writing Survey (MKWS)	A descriptive analysis of each of the variables concerning metacognitive knowledge about writing
RQ2. Is there a statistically significant correlation between the writing achievements of EFL learners and their metacognitive knowledge about writing?	Argumentative essay writing tasks Metacognitive Knowledge about Writing Survey (MKWS)	A correlation analysis
RQ3. What are the specific constituents that make up the understanding of Turkish EFL writers concerning the person, task, and strategy variables in the context of writing?	Retrospective interviews	A content analysis

Subsequently, a comprehensive list comprising all coded data was compiled, and codes with similar characteristics were grouped into broader units, forming the main themes. To assess the reliability of the content analysis process in consistently placing codes into themes and categories, another experienced EFL instructor from the same institution analyzed the codes within four randomly selected student transcriptions. The inter-rater agreement on the classification of references for the categories of metacognitive knowledge was determined to be 94%. Any disparities in the classification were reviewed, and the two raters reached a final consensus.

This rigorous content analysis approach allowed for a systematic examination of the qualitative data, ensuring that the themes and categories accurately represented the participants' metacognitive knowledge about writing.

FINDINGS

The study's findings are presented in alignment with the specific research questions that were posed in the study. This organized approach allows for a clear and systematic presentation of the research outcomes.

Quantitative Results

Research question 1

Table 6 provides an overview of the participants' metacognitive knowledge across three dimensions: person knowledge, task knowledge, and strategy knowledge. The analysis begins with an examination of the mean scores for all participants collectively.

The average level of metacognitive knowledge for the person variables subscale was found to be 3.8501, with a standard deviation of 0.68750. Similarly, the participants exhibited an average level of metacognitive knowledge for the strategy variables subscale, with a mean score of 3.8376 and a standard deviation of 0.51088. In contrast, the participants demonstrated a high level of metacognitive knowledge for the task variables subscale, with a mean score of 4.4506 and a standard deviation of 0.5304.

Table 6. Descriptive statistics of mean scores of MKWS subscales

	MKWS Subscales						
	N	**Mean**	**Std. Deviation**	**Median**	**Minimum**	**Maximum**	**Grouped Median**
High-performing group							
Person Knowledge	36	4.1667	.53080	4.2083	2.58	5.33	4.1944
Task Knowledge	36	4.6068	.4589	4.6000	3.70	5.40	4.600
Strategy Knowledge	36	4.0866	.46010	4.0192	2.96	5.27	4.0192
Average-Performing Group							
Person Knowledge	44	3.7361	.77190	3.8333	1.67	5.42	3.8333
Task Knowledge	44	4.3576	.4956	4.3667	3.40	5.20	4.3667
Strategy Knowledge	44	3.8471	.48900	3.8189	2.68	4.88	3.8098
Low-Performing Group							
Person Knowledge	40	3.6905	.63176	3.7083	2.33	5.00	3.7083
Task Knowledge	40	4.4123	.6041	4.4500	3.00	6.00	4.4667
Strategy Knowledge	40	3.6031	.47858	3.5769	2.62	4.65	3.5769
Total							
Person Knowledge	120	3.8501	.68750	3.9167	1.67	5.42	3.9524
Task Knowledge	120	4.4506	.5304	4.5000	3.00	6.00	4.5056
Strategy Knowledge	120	3.8376	.51088	3.8462	2.62	5.27	3.8654

These findings offer a comprehensive picture of the participants' metacognitive knowledge across the three dimensions, highlighting their relative strengths and weaknesses in each area.

The study's findings provide support for the notion that instruction in any aspect of metacognitive knowledge can have a positive impact on the writing performance of L2 learners, as suggested by Kasper (1997). It is worth noting that the participants in this study did not receive explicit instruction on self-knowledge as writers or knowledge about appropriate writing strategies.

However, they did receive instruction on the conventions and organizational rules of English written discourse and were guided on what they should do when writing in specific genres, which implies that they received instruction on certain dimensions of task knowledge. Based on these findings, it can be argued that while the participants' writing practices and experiences as EFL writers contributed to their moderate level of self-awareness as writers and their familiarity with self-regulatory strategies, the instruction on task knowledge may have heightened their awareness of this particular aspect of metacognition.

To explore whether the extent of participants' metacognitive knowledge varied across writing proficiency groups, the mean scores of the three MKWS subscales were analyzed for high-performing, average-performing, and low-performing writers individually. The results revealed slight differences among these groups in terms of their metacognitive knowledge, supporting the claims made by Harris et al. (2010) and Kasper (1997) that students with higher proficiency in writing tend to possess a greater level of metacognitive awareness about writing.

Specifically, high-performing writers exhibited higher mean scores across all three subscales, with a mean score of 4.1667 for person variables (SD = 0.53080), 4.6068 for task variables (SD = 0.4589), and 4.0866 for strategy variables (SD = 0.46010). This indicates that they were more aware of the person, task, and strategy aspects of their writing compared to their AP and LP peers. Average-performing writers displayed mean scores of 3.7361 (SD = 0.77190) for person variables, 4.3576 (SD = 0.4956) for task variables, and 3.8471 (SD = 0.48900) for strategy variables. Their metacognitive knowledge fell in between that of high-performing and low-performing writers, demonstrating a moderate level of awareness within the three subscales.

Low-performing writers had mean scores of 3.6905 (SD = 0.63176) for person variables, 4.4123 (SD = 0.6041) for task variables, and 3.6031 (SD = 0.47858) for strategy variables. Their metacognitive knowledge was generally similar to that of average-performing writers, indicating a comparable level of awareness across the three subscales.

These findings provide valuable insights into how writing proficiency levels relate to metacognitive knowledge, suggesting that higher proficiency in writing is associated with greater metacognitive awareness across multiple dimensions of writing.

Research question 2

To address the second research question regarding the relationship between Turkish EFL learners' writing achievement and their metacognitive knowledge about writing, a correlation analysis was conducted. This analysis aimed to determine the strength of the relationship between students' performance in argumentative writing tasks and their responses on the MKWS. The participants' writing achievement was assessed by averaging the scores provided by two independent raters. Table 7 presents an overview of the participants' overall writing achievement.

Table 7. Participants' English writing achievement

N	Mean	Std. Deviation	Median	Minimum	Maximum	Grouped Median
120	15.1479	4.04199	15.0000	5.00	23.50	15.0385

The results of the correlation analysis, as shown in Table 8, revealed several key findings regarding the relationship between students' writing achievement (average scores on argumentative writing tasks) and their metacognitive knowledge about writing as measured by the MKWS. The analysis aimed to determine whether there were statistically significant correlations between these variables and to what extent they were related.

There was a weak positive correlation ($r = 0.307$) between students' writing achievement and their person knowledge. However, this correlation was not statistically significant ($p > 0.05$), indicating that there was no conclusive evidence of a relationship between person knowledge and writing achievement. The Pearson correlation coefficient for task knowledge was 0.157, suggesting a very weak positive correlation. Similar to person knowledge, this correlation was not statistically significant ($p > 0.05$), indicating that task knowledge did not show a significant relationship with writing achievement. There was a weak positive correlation ($r = 0.373$) between students' writing

achievement and their strategy knowledge. However, like the other dimensions, this correlation was not statistically significant ($p > 0.05$), suggesting that strategy knowledge did not have a significant relationship with writing achievement.

Table 8. Correlations between writing achievement and MKWS subscales

	Writing Achievement		
	r	**p**	**N**
Person Variables	0.307	>0.05*	120
Task Variables	0.157	>0.05*	120
Strategy Variables	0.373	>0.05*	120

*Correlation is significant at the 0.05 level.

In summary, the correlation analysis indicated that there were weak positive correlations between students' writing achievement and their person knowledge and strategy knowledge, but these correlations were not statistically significant. Additionally, there was no statistically significant relationship between task knowledge and writing achievement. These findings suggest that, in this study, metacognitive knowledge about writing (in terms of person, task, and strategy knowledge) did not significantly impact students' writing achievement.

In summary, these findings suggest a positive but relatively modest relationship between the writing achievement of EFL students and their awareness of both the person and strategy variables. However, this relationship did not demonstrate the strength typically found in prior research, which often indicated a robust connection between students' writing performance and their metacognitive knowledge, including its various components (Devine et al., 1993; Kasper, 1997; Zimmerman & Bandura, 1994). It is worth noting that assessing participants' writing achievement solely through their argumentative essays, within a limited timeframe, may have introduced unexpected variables into the research results. Previous studies have revealed that writing skills can vary significantly depending on the genre, and a single form of writing may not adequately represent a writer's overall proficiency. In other words, participants' performance in argumentative essays might not accurately reflect their true writing abilities, potentially leading to misconceptions about their writing skills and, consequently, the strength of the relationship between metacognitive knowledge and writing achievement.

Qualitative Results

Research question 3

An in-depth analysis of students' perceptions regarding their identity as writers, the writing tasks they engaged in, and the strategies they were familiar with provided valuable insights into potential improvements in their writing processes and addressing their needs as EFL writers. Table 9 offers an overview of the themes that emerged within each category for high-performing, average-performing, and low-performing writers.

Upon a detailed examination of the interview data from high-performing and average-performing writers, seven themes emerged under the category of person knowledge, four themes under the category of task knowledge, and six themes under the category of strategy knowledge (see Table 9). The themes derived from the low-performing group's data were consistent with those of the high-performing and average-performing groups concerning the task and strategy variables. Regarding the person variable, six themes were common to all groups, but the theme related to person-related factors positively affecting writing performance did not appear in the data from low-performing writers.

These themes identified from the interview discussions for each component of metacognitive knowledge align with descriptions provided by previous scholars and researchers (Ruan, 2005; You & Joe, 2001). In essence, interviewees' person knowledge encompassed their awareness of factors, both

positive and negative, related to themselves that influenced their writing performance, their self-efficacy beliefs and self-concepts, as well as their goals and efforts aimed at enhancing their English writing skills. Their task knowledge included their awareness of factors tied to the writing task that impacted their performance, the challenges they encountered during writing, and the criteria and attributes of well-crafted texts. Lastly, their strategy knowledge involved their awareness of their goal objectives, their planning, monitoring, revising, and editing strategies, as well as the criteria they used for self-evaluation.

Table 9. Themes for the core category of metacognitive knowledge about writing

Categories	Themes for HP writers (n=11)	Themes for AP writers (n=15)	Themes for LP writers (n=9)
Person Knowledge	1.Person-related factors affecting writing performance negatively	1. Person-related factors affecting writing performance negatively	1.Person-related factors affecting writing performance negatively
	2.Person-related factors affecting writing performance positively	2. Person-related factors affecting writing performance positively	-
	3.Self-efficacy beliefs regarding writing performance	3. Self-efficacy beliefs regarding writing performance	2.Self-efficacy beliefs regarding writing performance
	4. Awareness of strengths	4. Awareness of strengths	3. Awareness of strengths
	5. Awareness of weaknesses	5. Awareness of weaknesses	4. Awareness of weaknesses
	6. Endeavours to improve English writing	6. Endeavours to improve English writing	5. Endeavours to improve English writing
	7. Goals to learn English writing	7. Goals to learn English writing	6. Goals to learn English writing
Task Knowledge	1.Task-related factors affecting writing performance	1. Task-related factors affecting writing performance	1. Task-related factors affecting writing performance
	2. Challenges in completing a writing task	2. Challenges in completing a writing task	2. Challenges in completing a writing task
	3.Awareness of task requirements	3. Awareness of task requirements	3. Awareness of task requirements
	4. Features of a good piece of writing	4. Features of a good piece of writing	4. Features of a good piece of writing
Strategy Knowledge	1. Objectives of writing goals	1. Objectives of writing goals	1. Objectives of writing goals
	2. Planning ahead of writing	2. Planning ahead of writing	2. Planning ahead of writing
	3. Monitoring while writing	3. Monitoring while writing	3. Monitoring while writing
	4. Revising	4. Revising	4. Revising
	5. Editing	5. Editing	5. Editing
	6. Criteria for self-evaluation	6. Criteria for self-evaluation	6. Criteria for self-evaluation

The findings from the content analyses align with the results of the descriptive analysis, highlighting differences in the extent of participants' person and strategy knowledge, while indicating similarities in the extent of their task knowledge.

To provide more specific insights, trühe codes that emerged from the data of the high-performing and average-performing groups related to person knowledge were more numerous compared to those that emerged from the data of the low-performing group. This finding confirms a reciprocal relationship between students' writing achievement and their level of person knowledge. In other words, higher-achieving writers demonstrated a more comprehensive understanding of person-related factors influencing their writing performance.

Although the emerging codes related to strategy knowledge were relatively similar among all three groups of writers, there were notable differences in the frequency of occurrence. This discrepancy suggests distinct tendencies among writers with varying levels of writing competency when it comes to their awareness of writing strategies. However, it is important to note that regardless of their writing achievement scores, participants in all groups mentioned very similar aspects of task knowledge. This indicates that their understanding of task-related factors affecting writing performance was consistent across different proficiency levels.

In summary, these findings underline the significance of person knowledge and strategy knowledge in influencing writing achievement, with higher-achieving writers demonstrating a more developed understanding of these aspects. However, all participants, regardless of their proficiency, exhibited a similar level of awareness when it came to task knowledge.

CONCLUSION AND SUGGESTIONS

Concluding Remarks and Pedagogical Implications

The present study utilized an explanatory sequential mixed methods methodology to explore the extent of metacognitive awareness among Turkish students learning English as a foreign language, particularly in the context of English writing. The study involved 120 Turkish EFL students at the B2 proficiency level. To assess the participants' metacognitive comprehension regarding aspects such as individual attributes, task characteristics, and strategic approaches, a questionnaire was distributed. Furthermore, in-depth interviews were carried out with 35 participants to enhance and provide deeper insights into the quantitative results. The instruments employed in this study provided valuable insights and significantly contributed to our understanding of the EFL writing process among Turkish tertiary-level students. The quantitative findings demonstrated that proficient writers possessed higher levels of person, task, and strategy knowledge compared to their average or lower-performing counterparts. The qualitative content analysis, predominantly favoring the high-performing group, further substantiated these results. Consequently, it can be concluded that there exists a significant relationship between students' writing performance and their metacognitive knowledge, particularly in terms of person and strategy knowledge.

One of the study's most noteworthy findings was that Turkish EFL students exhibited an average level of person and strategy knowledge even in the absence of explicit metacognitive instruction. The content analysis results aligned with these findings, highlighting differences in the extent of person and strategy knowledge among high-performing, average-performing, and low-performing writers, while showing similarities in their task knowledge. This suggests that the content covered in their writing classes primarily contributed to their strong task knowledge. These findings imply that when students are exposed to direct or indirect metacognitive instruction, their person and strategy knowledge may also improve.

Considering the study's outcomes, several pedagogical implications for EFL writing instruction can be drawn, along with suggestions for integrating metacognition into EFL writing courses. Metacognition can be imparted to students through various techniques and activities, including teacher modeling, thinking aloud, maintaining reflective journals, planning and self-regulation, debriefing the thinking process, self-evaluation, self-questioning, and self-reflection (Blakey & Spence, 1990; Hartman, 2001b; Öz, 2005; Schraw, 1998; Wong & Storey, 2006). Cooperative learning opportunities, such as peer interaction, peer consultation, group work, and discussions, play an essential role in cultivating metacognition (Schraw, 1998).

In conclusion, a versatile approach that encompasses a range of activities is recommended to cater to diverse writer needs and learning styles in different educational contexts. To promote self-regulation and autonomy among EFL writers, instructors should assist them in acquiring new metacognitive skills and engage them in a wide array of metacognitive activities.

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