Metacognitive Awareness of Reading Strategy use between Field-Dependent and Field-independent EFL Learners

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Abstract
The purpose of this article was to examine the metacognitive awareness of reading methods used by field-dependent (FD) and field-independent (FI) Turkish EFL university students learning English as a foreign language. 270 students from Istanbul's (Cerrahpasa) University were picked for this purpose. To begin, the Group Embedded Figure Test was used to assign individuals to one of two groups, FD or FI. Following that, we assessed participants' metacognitive awareness of their reading technique using the MARSI-R. (Metacognitive Awareness of Reading Strategies Inventory-Revised). Mokhtari et al. recently redesigned the MARSI-R instrument, which has 15 items and assesses three broad categories of reading strategies: global reading strategies (GRS), problem-solving strategies (PSS), and support reading strategies (SRS). The findings indicated that students used all three techniques on a near-daily basis and were aware of their metacognitive methods. Furthermore, a statistically significant difference in the use of GRS and SRS was discovered between FI and FD students; hence, the usage of students' metacognitive reading techniques was influenced by their distinct FI/FD cognitive styles.
Keywords: Metacognitive Awareness, Field-Dependent, Field-Independent, Reading Strategy, MARSI-R.

Introduction

According to Grabe (1991), reading is a critical skill and unquestionably the most fundamental talent for foreign or second language learners to master to demonstrate their continued development in academic contexts. Reading can be viewed as a means of acquiring, modifying, and acquiring new knowledge. Given the difficulty of defining the nature and purpose of reading, a final definition for reading becomes a far-fetched task. Concerns about nonnative English language students' reading abilities have resulted in numerous studies indicating that children appear to have a limited ability to interpret the information contained in texts. In some situations, individuals cannot think critically and deduce meaning from context clues.

Additionally, strategic awareness and monitoring of the understanding process are indispensable components of proficient reading (Pressley & Afflerbach, 1995; Sheorey & Mokhtari, 2001). According to Li and Mumby (1996), reading can be viewed as a sophisticated and demanding process in which readers actively employ metacognitive methods. Metacognitive theory, by a broad definition, is a systematic framework for explaining metacognitive knowledge and regulation. Metacognitive knowledge is defined as "awareness of one's self as a learner and the elements that may affect performance, awareness of techniques, and awareness of when and why to utilise methods" (Di Martino, 2019). Metacognitive regulation, on the other hand, is defined as the monitoring of one's cognition and comprises activity planning, awareness of comprehension and task performance, and assessment of the efficacy of monitoring processes and techniques.

Because metacognition is most commonly understood as "cognition about cognition" or simply thinking about thinking (Flavel=l, 1979), the phrase "metacognitive awareness" contains comparable concepts to "metacognition." Numerous individual variables may have a significant impact on the second/foreign language learning process in general and on the usage of second/foreign language reading strategies in particular. Researchers (e.g., Chapelle & Roberts, 1986; O'Malley & Chamot, 1990; Oxford, 1990a; Reid, 1987; Wenden & Rubin, 1987) have sought to identify factors affecting the process of second/foreign language learning. Age, gender, level of language competence, attitude, motivation, learning styles, and cognitive styles are all examples of these characteristics. Witkin and Asch (Witkin, 1950; Witkin & Asch, 1948a, 1948b) developed the field-dependent/independent distinction while researching how individuals perceive themselves in space.

Along with the introduction of these two concepts, numerous researchers have concentrated on how learners process new information and the patterns of strategies they employ to comprehend, learn, or remember the information via the tetrad skill of a second or foreign language. In contrast, another group of researchers has sought to define and articulate the field-dependent/independent construct in terms of its implications for education and instruction by referring to the aforementioned foundational studies. According to Drnyei, one of the most significant cognitive style components that could affect second language learning is the field-dependence (FD) versus field-independence (FI) cognitive style (2005). Jonassen and Grabowski (1993) define field dependence/independence as the degree to which a learner's environment's nearby perceptual or contextual field modifies their perception or processing of information. To help us understand the learners' reading difficulties, it is critical to examine their metacognitive understanding of reading strategies. This can help them enhance their reading comprehension, as increased metacognitive awareness can help improve comprehension (Zhang, 2008).

Reading

Reading is a critical ability that learners from elementary school through university, and even beyond the educational context, use to obtain a wealth of knowledge based on the material they are assigned to read. Reading is a process that involves the interaction of four elements: the reader, the text, fluent reading (the capacity to read at an acceptable velocity while maintaining adequate comprehension), and strategic reading (the ability of the reader to use a variety of reading strategies to accomplish a purpose for reading). According to Afflerbach, reading is a dynamic and constructed activity that combines skill, techniques, and past information (2007). Brantmeier categorises research on reading strategies into three categories: (1) identification of successful and failed EFL/ESL learners' reading strategies; (2) reading strategies instruction; and (3) factors affecting the usage of reading strategies (2002). Grabe views L2 reading as a synthesis of the talents and capacities that readers attribute to the act of reading (2009). He specifies five abilities that define reading as a definitional act: quick and automatic processing; interaction; flexibility and strategy; purposefulness; and language processing (1991). In his third aspect, reading is fluid and purposeful activity in which readers evaluate whether the material they are reading is accomplishing their objectives. If there is any hindrance to this, readers must change their processing and monitoring activities flexibly. As a result, it's unsurprising that numerous studies have been conducted to examine the differences and similarities in the way more and less effective readers employ reading strategies, as well as revised instruments for measuring reading strategies (e.g., Flavell, 1979; Oxford, 1990a; Pressley & Afflerbach, 1995; Shang, 2011; Wu, 2005; Mokhtari & Sheorey, 2002; Mokhtari, Dimitrov and Reichard, 2018).

According to several studies, skilled second language readers know how to employ several techniques to accomplish their learning objectives, but less effective readers employ strategies less frequently and frequently do not select the most appropriate strategies for the tasks (Shang, 2011). In their study, Pressley and Afflerbach (1995) concluded that proficient readers were more strategic and deliberate in their efforts to absorb what they

were reading. Brown asserts that an interactive approach to reading comprehension is necessary for readers to acquire the mix of Bottom-up and Top-down tactics required for greater levels of reading comprehension (2000). Additionally, reading is a process in which readers must not only comprehend the text's stated meaning but also make sense of its suggested ideas. Reading requires a significant amount of cognitive capacity for comprehension, and as skilled readers, we know that comprehension is more likely to occur due to reading engagement. They understand how to relate what they are reading to prior information, how to anticipate what might occur in the text, and how to summarise what they are reading. These comprehension strategies are referred to as metacognitive notions in reading, and their knowledge determines whether a reader is an effective reader or not. According to Koda (2005), ownership of strategic reading relies on the cognitive and metacognitive capabilities of the readers. He states that while professional readers face comprehension problems, they try to monitor their reading process attentively, they are aware of their cognitive and linguistic resources, and they are capable of propelling their consideration to the proper clues in anticipating, organising, and retaining text information; it means, they put in use of metacognitive reading strategies. In general, metacognition is the knowledge and control a learner has over their own learning process, and metacognitive knowledge refers to "knowledge about knowledge" (Grabe, 2009).

Metacognition (Awareness) and Reading

In general, Flavell (1976, p.232) defines metacognitive knowledge as "one's knowledge about one's cognitive processes and products, or anything related to them." The term "metacognition" is usually regarded to encompass four components: (a) metacognitive information, (b) metacognitive experiences, (c) objectives, and (d) actions. As previously stated, metacognitive knowledge refers to a learner's knowledge of their own self. Metacognitive experiences are thoughts and feelings associated with cognitive activity. Metacognitive objectives are the overarching and specific goals of cognitive tasks. Metacognitive activities, on the other hand, refer to the tactics used to accomplish those specified goals. Metacognition demonstrates that learners can derive meaning from material in the context of reading comprehension. They should be able to reflect on their thought processes, identify and alter reading techniques while reading. It is a subset of a learner's cumulative universe knowledge that comprises environmental-related cognitive tasks, goals, actions, and experiences. It begins with information or beliefs about the factors or variables that function and communicate in ways that influence the course and outcome of cognitive enterprises.

Numerous metacognitive discourses divide metacognitive knowledge from metacognitive control. The term "metacognitive knowledge" relates to what a learner understands about cognition, but "metacognitive control process" refers to how the learner applies that information to change cognition. Brown (1987) was one of the first to distinguish between two fundamental modules of metacognition: knowledge of cognition and cognition management. The term "cognitive knowledge" refers to a learner's understanding of their own cognition or of cognition in general. It can be configured in three ways: declarative, procedural, or conditional knowledge. Declarative knowledge is concerned with one's factual understanding of one's capabilities and the elements affecting one's performance. Procedural knowledge, on the other hand, relates to the ability to execute procedural abilities. Conditional knowledge is concerned with determining the reasoning behind certain cognitive actions. The term "cognitive regulation" refers to a group of actions that enable learners to exert control over their thinking and learning. Although various regulatory competencies have been demonstrated in the literature, planning, monitoring, and assessment are the critical parts that all accounts incorporate. Planning entails formulating and arranging appropriate strategies and resource allocations that affect performance. Monitoring entails being aware of and vigilant of the task and performance objectives. Evaluating is the process of determining the regulatory process and the effectiveness of a learner's ability to learn (Teng, 2016). Teng asserts that "metacognition is a presumed innate talent of human beings" (2016, p.301). When students can establish an awareness of

metacognition and strategically employ it to govern their learning, a dramatic shift in their metacognitive adequacy is noticed (Teng, 2016).

As Auerbach and Paxton (1997) show, metacognitive awareness can be successfully increased; this is knowledge about the appropriate behaviours to take to accomplish a certain goal. When applied to reading that is crucial to skilled reading, it can be characterised as "awareness of readers' cognition as it relates to the reading process and the self-control mechanisms they employ to monitor and enhance understanding" (Sheorey & Mokhtari, 2001, p. 432). Impressive readers, according to Pressley and Afflerbach (1995), are strategic or "constructive responsive" readers who carefully arrange cognitive resources while reading. As a result, the reader must exercise metacognitive awareness and make use of intentional methods to successfully perceive the text. What separates skilled readers from unskilled readers is their conscious understanding of the strategic reading process and their real application of these reading methods (Sheorey and Mokhtari 2001). Thus, adept readers are aware of the written works they read, they can articulate the reason(s) for reading them, they can devise strategies for resolving challenges, and they can monitor their comprehension of the material.

In comparison, unskilled readers are constrained by their metacognitive understanding of reading. They are adamant about reading as a decoding operation rather than a process of meaning production. A typical conclusion in reading strategy research is that increased awareness is likely to result in improved reading comprehension and that less successful readers can improve their reading proficiency through training and scaffolding based on the tactics used by more successful readers (Mokhtari & Perry, 2008; Mokhtari, Sheorey, & Reichard, 2008). Effective readers are defined from a metacognitive perspective as those who adapt their reading process and strategy utilisation to the textual demands (Pressley & Afflerbach, 1995).

Metacognitive experiences encompass all conscious cognitive or affective experiences that occur in conjunction with and are associated with any intellectual endeavours. They occur before, during, and following the reading. Garner (1988) classified pre-reading knowledge as information about personal strength, during-reading information as strategy knowledge, and post-reading information as task information. Metacognitive knowledge lays the groundwork for all three of these experiences by establishing a foundation for metacognitive experiences represented as awareness.

Sheorey and Mokhtari (2001) studied the difference in metacognitive awareness of reading methods used by 150 English native and 152 non-native university students in America when reading academic literature. They used the Survey of Reading Techniques (SORS) (Mokhtari & Sheorey, 2002), designed to assess L2 students' metacognitive awareness of reading strategies when reading academic or educational materials. Among other findings, there was a substantial correlation between students' reading ability and reported reading strategies, independent of reading ability level. This suggests that students with high reading ability, both native and non-native, utilized more techniques than students with low reading ability in the two groups. The findings corroborated the observation that skilled readers employ more methods than less proficient readers, owing to their increased metacognitive awareness of the range of reading strategies. This trend in second language reading methods, which are defined as "deliberate, conscious procedures adopted by readers to improve text comprehension" (Sheorey & Mokhtari, 2001, p.433).

Mokhtari and Reichard (2002) used the Metacognitive Awareness of Reading Strategies Inventory to assess students' level of reading strategies in another study (MARSI). It was created to measure students' awareness of and perceived reading techniques when reading academic text or school-related materials in the sixth through twelfth grades. The study enrolled 825 kids from ten urban, suburban, and rural school districts across five Midwestern states. MARSI assessed three different (strategy) subscales: global reading strategy, problem-solving reading strategy, and support reading strategy. The results indicated that substantial disparities existed in the use of global and problem-solving reading strategies but not in support reading methods.

Additionally, students who evaluated their reading ability as exceptional used the global reading method substantially more than readers who rated their reading ability as ordinary. For readers who evaluated their reading ability as great, the results indicated that they used this method substantially more than readers who ranked their reading ability as ordinary. Additionally, this study demonstrated that MARSI was trustworthy and valid for assessing and quantifying learners' metacognitive awareness based on psychometric data. It should be emphasised that the effectiveness of these tactics is somewhat dependent on the learners' age, reading ability, text difficulty, and type of reading materials.

Field dependency independence (FD, FI) is a psychological concept that has been transferred to second language acquisition (Ellis, 1995). Christison (2003) identifies distinctions between cognitive styles such as field dependence/independence, analytic/global, and reflective/impulsive; sensory styles such as visual/auditory and tactile/kinesthetic; and personality styles such as ambiguity tolerance and right/left brain dominance.

In education, researchers hypothesised that cognitive styles could be predictive of academic achievement (Strenberg & Zhang, 2001). Among the cognitive styles discussed previously, field-dependence (FD) and field-independence (FI) cognitive styles have a significant role in second language acquisition (Larsen-Freeman & Long, 1991). This cognitive type can be assessed using the Witkin et al.-developed Group Embedded Figures Test (GEFT) (1971). Fundamentally, this perceptual exam assesses an individual's ability to deconstruct an ordered visual field in such a way that an embedded part or given shape within the field can be recognised as distinct from the rest of the field (Pithers, 2002).

Brown (2000, p.106) defines field-independence as "the capacity to perceive a specific relevant item or factor within a field of distracting items" and field-dependence as "the proclivity to be dependent on a total field in such a way that parts embedded within the field are not easily perceived, even when the total field is perceived as a unified whole." Felder and Henriques (1995) assert that field-independent learners absorb knowledge and make sense of it in discrete, connected pieces, whereas field-dependent learners absorb information in seemingly unconnected segments and acquire holistic understanding. Prior to learning mastering the nuances of a subject, field-dependents must understand how the content is provided relates to their prior knowledge and experience. As a result of attempting to grasp the big picture, field-dependent learners may exhibit poor and subpar performance on their homework and assessments. In comparison to field-dependent students, field-independent students can function with a partial understanding of the content. Still, they may lack a concept of the broader context of a body of knowledge and its relationships to other topics (Felder & Henriques, 1995).

Purpose of the Study

The goal of this study is to ascertain the reading strategies used by Turkish university preparation FI and FD students when approaching EFL reading and to see whether there is a difference in strategy selection between these two groups of students. This study addresses three distinct issues:

1. Which categories of reading strategies do the Turkish students use most frequently in reading English?
2. Which categories of reading strategies do FD/FI Turkish students use most frequently in reading English?
3. Is there any relationship between Turkish students' usage of metacognitive reading strategies with their FI/FD cognitive styles?

Method

Participants

The survey sampled all students enrolled in Istanbul Cerrahpasa University's English preparation program from 2010-2011. Students were required to complete an English preparation school before pursuing university studies in various fields, and the participants in this study were not beginners in English. The total number of students was 824, of which 265 were chosen to participate in the study. The Kerjcie and Morgan table was used to estimate the sample size. To choose the sample at random, a multistage cluster sampling procedure was used. Before administering the Metacognitive

Awareness of Reading Strategies Inventory-Revised (MARSI-R) questionnaire, the Field Dependent and Field Independent students were identified and classified separately using their Group Embedded Figures Test results (GEFT). Witkin (1971) used this exam to assess children and adults' field dependence-independence cognitive styles. 32 pupils with scores ranging from six to thirteen were eliminated because they did not fall into the FD or FI categories. 119 FI and 114 FD were also discovered. To ensure that each group had an equal number and gender of participants, one hundred FD and one hundred FI students were recruited to participate in the study. The mean age of the participants was 22 years, ranging from 18 to 25 years.

Materials

The data for the study were gathered using a questionnaire adapted from the Metacognitive Awareness of Reading Strategies Inventory-Revised (MARSI-R) questionnaire developed by Mokhtari et al. (2018) to assess the metacognitive awareness perceived use of reading strategies by adolescent and adult English language learners while reading academic materials. MARSI-R consists of fifteen items that assess three main areas of reading strategies, each with five items: global reading strategies (GRS), problem-solving strategies (PSS), and support reading strategies (SRS). Following each item is a 5-point Likert scale indicating the frequency of method use, ranging from 1 (never) to 5. (always).

Table 1: Categorizing of EFL Reading Strategies (Mokhtari et al, 2018)

Strategy Type	Items
Global Reading Strategy (GRS)	1,3,5,12,13
Problem Solving Strategy (PSS)	7,9,11,14,15
Support Reading Strategy (SRS)	2,4,6,8,10

Before data analysis, the gathered questionnaires were inserted into the SPSS Version 26 program to ensure that the MARSI-internal R's consistency was appropriate for the study. Cronbach's alpha values for the three strategy categories were 0.78, 0.79, and 0.72 for GRS, PSS, and SRS, respectively, while the overall reliability coefficient was (0.86). (Glass & Hopkins, 1996).

Procedure

To create two equal target groups for this study (FD vs. FI), all students enrolled in Istanbul Cerrahpasa University's English preparation school during the academic year 2020-2021 were chosen. The total number of students was 824, of which 265 were chosen for the study. The Kerjcie and Morgan table was used to estimate the sample size. To choose the sample at random, a multistage cluster sampling procedure was used. Witkin (1971) employed the Group Embedded Figures Test (GEFT) to assess children and adults' field dependence-independence cognitive styles. The GEFT is a paper-based test comprised of seven practice items to be completed in one minute and two further sets of nine things to be completed in five minutes. The exam requires participants to discover 18 simple geometric shapes hidden within a bigger, more complex pattern geometric shape. GEFT scores range from 0 (very FD) to 18. (highly FI). 32 pupils with scores ranging from six to thirteen were eliminated because they did not fall into the FD or FI categories. 119 FI and 114 FD were also discovered. To ensure that each group had an equal number and gender of participants, one hundred FD and one hundred FI students were recruited to participate in the study. The mean age of the participants was 22 years, ranging from 18 to 25 years.

Then, to ensure the study's quality, the first Turkish translation of Mokhtari et al(2018) .'s Metacognitive Awareness of Reading Strategies Inventory-Revised (MARSI-R) questionnaire will be pilot-tested with a group of 15 students from the same population pool. The objective was to ascertain the items' clarity and comprehension, as well as the length of time required to answer the questions. Finally, the completed Turkish version of the questionnaire was sent to 200 students in four separate courses so that no participant was aware of whether they were FD or FI. However, participants were informed of the survey's aim and conditions and requested candid responses. Following that, we analysed all completed questions and selected 200 valid questionnaires for statistical analysis.

Data Analysis

The study used a quantitative methodology to

ascertain the extent to which students are aware of reading strategies by examining the frequencies and variations of strategy use. As a result, the acquired data were statistically processed to produce descriptive and inferential statistics. The data were analysed using SPSS to determine and compare the differences between two field-dependent (FD) and field-independent (FI) groups for questions two, three, and four. Each student's reaction to each item on the MARSI-R was scored, and the average score for each of the GRS, PSS, and SRS subscales was determined.

To assess the total number of metacognitive strategies students employ when reading, descriptive statistics for three categories of strategy utilization proposed by Mokhtari et al. (2018) were modified. Global reading strategies (GRS), problem-solving strategies (PSS), and support reading strategies (SRS) were utilized to categorise participants' MARSI-R outcomes. The table 1 summarizes the descriptive data for students' overall metacognitive methods in reading scores and the mean scores for each subcategory.

Table 1: Participants' Mean Scores of Metacognitive Strategies in Reading Descriptive Statistics

	N	Mean	S.D
Total metacognitive strategies	200	3.7915	.38227
PSS	200	3.9607	.51952
GRS	200	3.7425	.38944
SRS	200	3.6713	.56086

Early data indicate that the total mean score of students' metacognitive methods is M=3.79 with a standard deviation of 0.38, indicating a high level of strategy adoption. On the subject of each of the three sub-strategies, PSS is the best with M=3.96 and a standard deviation of 0.51 that corresponds to the highest frequency level. GRS follows with a mean score of 3.74 and a standard deviation of 0.38. At the same time, SRS is ranked last with a mean score of 3.67 and a standard deviation of 0.56. The total mean score and the mean score for each sub-strategy indicate that participants used metacognitive strategies frequently in English reading; this indicates that they were acutely aware of their use of metacognitive techniques in academic reading and hence qualify as high strategy users.

To address the second research question, which reading methods are most frequently used by FD/FI Turkish students when reading English? MARSI-R was used to compare two groups of students. An independent sample t-test was used to do so. The research was conducted to evaluate the total score of metacognitive strategies between FI and FD participants to determine whether they had a substantially different overall mean score and mean score for three sub-strategies (PSS, GRS, and SRS).

Table 2: The Total Usage of Metacognitive Reading Strategies for each Sub-strategy by FI and FD Participants

Mean Score	FD/FI	N	Mean	Std. Deviation	P-Value	T
Total	FD	100	3.58	0.38	0.452	0.58
	FI	100	3.83	0.47		
PSS	FD	100	3.91	0.49	0.425	0.78
	FI	100	3.98	0.55		
GRS	FD	100	3.72	0.30	**0.012***	-2.43
	FI	100	3.57	0.43		
SRS	FD	100	3.46	0.58	**0.010***	2.57
	FI	100	3.69	0.51		

As illustrated in Table 2, when comparing FI and FD participants' use of metacognitive reading methods, it is clear that the mean score for FI participants is 3.83 with a standard deviation of 0.47. In contrast, the mean score for FD participants is 3.58 with a standard deviation of 0.38. This

shows that the former individuals make more use of metacognitive reading procedures than the latter. According to Cohen (2014), FI students are more likely to use tactics such as planning, assessing their comprehension, and critically examining the content during the learning process. As a result, FI students may be more adept at implementing metacognitive methods in a reading setting. However, when t=0.58 and p>0.05 are used, statistical analysis suggests no significant difference in overall metacognitive reading strategy use between FI individuals with M=3.83 SD=0.47 and FD participants with M=3.58, SD=0.38.

In comparing FI and FD participants' use of PSS as one of three sub-strategies, FI students had a mean score of 3.98 with SD=0.49, whereas FD students achieved a mean score of 3.91 with SD=0.55. As a result, no significant difference exists between FI and FD (t=0.78; p>0.05).

Table 3: Problem Solving Strategies (PSS) used by both FI and FD Participants

Problem Solving Strategies	FI		FD		P-Value	T
	Mean	SD	Mean	SD		
07. Getting back on track when getting sidetracked or distracted.	3.93	0.93	4.045	0.88	0.48	-0.732
09. Adjusting my reading pace or speed based on what I'm reading.	4.05	0.89	3.95	0.93	0.47	0.73
11. Stopping from time to time to think about what I'm reading.	3.62	0.91	3.58	0.88	0.52	0.63
14. Re-reading to make sure I understand what I'm reading.	4.36	0.66	4.28	0.65	0.42	0.69
15. Guessing the meaning of unknown words or phrases.	3.95	0.89	3.78	0.81	0.17	1.34

As demonstrated in Table 3, there is no significant difference between the PSS employed by FI and FD participants when P-Value >.05 is used. Although there is a slight difference in the frequency with which both groups of individuals apply problem-solving tactics. This demonstrates that individuals have no difficulty resolving challenges related to reading material. Among the five particular techniques, FI participants indicated that they frequently re-read and modify their reading speed to resolve reading problems. In contrast, FD participants reported that they frequently re-read and re-orient themselves when reading problems occur. "Re-reading to ensure that I understand what I'm reading" is the most often used strategy item in this sub-strategy, and it is a critical component of both FD/FI participants' strategies.

Comparing FI and FD students' employment of Global Strategies, another MARSI-R sub-strategy, FI students received a mean score of 3.57 with a standard deviation of 0.43. FD students had a mean score of 3.72 with a standard deviation of 0.30. This condition indicates a statistically significant difference between the two groups described previously (t=-2.43, p0.05).

Table 4: Global Reading Strategy (GRS) used by both FI and FD Participants

Global Reading Strategy	FI		FD		P-Value	T
	Mean	SD	Mean	SD		
01. Having a purpose in mind when I read.	3.68	0.83	3.76	0.76	0.18	-1.31
03. Previewing the text to see what it is about before reading it.	**3.53**	**0.94**	**3.83**	**0.80**	**0.04***	**-2.15**
05. Checking to see if the content of the text fits my purpose for reading.	**3.54**	**0.61**	**3.99**	**0.64**	**0.000***	**-4.16**

12. Using typographical aids like bold face and italics to pick out key information.	3.22	0.94	3.40	0.72	0.17	-1.37
13. Critically analyzing and evaluating the information read.	**3.67**	**0.75**	**3.34**	**0.73**	**0.007***	**2.71**

As demonstrated in Table 4, there is a significant difference between each GRS employed by FI and FD individuals with a P-Value of 0.05. As can be observed, FD students employed GRS 3 "Previewing the text to determine its content before reading" more frequently than FI participants, indicating a significant difference (t=-2.15; p0.05). This shows that FD participants are more receptive to learning materials that are related to their existing knowledge or that people prefer to make connections between their prior experiences and new information. Thus, when it comes to reading, they enjoy reflecting on what they have previously learned and applying it to new learning situations. Additionally, GRS 5 "Confirming that the text's substance suits my purpose for reading," suggests a statistically significant difference between FI and FD participants (t=-4.16; p0.05). This suggests that FD students employ this method more frequently than FI students. The reason for this could be that FD participants have a propensity to think broadly or that they skim the material for only general information, omitting details. When it comes to information absorption, they may quickly grasp the core idea while dismissing extraneous information. However, FI participants prefer to focus on every element in a text and are not adept at distinguishing between significant and irrelevant information. Additionally, GRS 13 "Critical analysis and evaluation of the information read" demonstrates a significant difference between FD and FI participants (t=2.71; p0.05). In this item, FI students appear to be more adept at critically assessing and evaluating reading texts, which aligns with their innate ability to think analytically and evaluate information critically (Witkin et.al, 1971).

Overall, there are substantial variations between FI and FD individuals' use of three out of five distinct methods. Additionally, students from both groups stated their preferences for specific GRS that correspond to their FI or FD cognitive style traits.

In terms of SRS, the results are nearly identical: FI participants caught 3.69 for the mean score with SD=0.51, while FD participants caught 3.46 for the mean score with SD=0.58. As a result, it demonstrates a statistically significant difference with (t=2.57; p0.05).

Table 5: Support Reading Strategy (SRS) used by both FI and FD Participants

Global Reading Strategy	FI		FD		P-Value	T
	Mean	SD	Mean	SD		
02. Taking notes while reading.	3.57	0.93	3.37	0.96	0.20	1.28
04. Reading aloud to help me understand what I'm reading.	3.50	1.36	3.49	1.18	0.94	0.06
06. Discussing what I read with others to check my understanding.	**3.60**	**0.09**	**3.12**	**0.11**	**0.002***	**3.21**
08. Underlining or circling important information in the text.	3.86	1.08	3.88	1.09	0.94	-0.07
10. Using reference materials such as dictionaries to support my reading.	3.61	1.14	3.29	1.11	0.08	1.73

Table 5 demonstrates that FI participants prioritize almost all SRS elements except "Discussing what I read...", indicating that they are less reliant on being given a social structure for the subject and are more self-motivated. SRS 6 "Discussing what I read with others to ensure my comprehension" (t=3.21; p0.05) demonstrates a significant difference between FI and FD participants. The explanation for this may be that they have a proclivity for developing their structure when it comes to comprehending

information. They are adept at reorganising and restructuring information in novel ways. Meanwhile, FD participants typically acquire new knowledge in a social setting. All findings demonstrated that FI and FD students employ a range of GRS and SRS in their reading texts, but the same individuals expressed a similar preference for PSS.

To investigate the study's third question, "Is there any correlation between students' use of metacognitive reading methods and their FI/FD cognitive styles?" The SPSS Chi-square test for independence was used to compare the level of metacognitive strategy used between individuals in the FI and FD groups. The two independent variables are: 1. the three degrees of utilization of metacognitive reading methods and their three sub-strategies (1=high, 2=moderate, 3=low), and 2. the students' FI (group1)/FD (group2) cognitive styles.

Table 6: Chi-Square Tests for overall Metacognitive Strategy usage

Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	38.89a	230.015
Likelihood Ratio	39.76	231.000
Linear-by-Linear Association	.0981	1.000
N of Valid Cases	4652	

a. 0 cells (0%) have an expected count of less than 5. The minimum expected count is 75.

As shown in Table 6, the overall metacognitive strategy use was compared between the FI and FD groups of participants using the Chi-square test of independence. There was a statistically significant difference in the overall use of metacognitive methods between FD and FI participants (x2 =38.89, p=0.01), with FD students employing more metacognitive strategies.

Table 7: Chi-Square Tests for Specific Metacognitive Strategy usage

Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.35a	170.43
Likelihood Ratio		20.65170.65
Linear-by-Linear Association	.0981	.061
N of Valid Cases	3647	

a. 0 cells (0%) have an expected count less than 5. The minimum expected count is 75.

The last table (7) summarizes the results of a Chi-square test comparing the groups' differences in strategy utilization in relation to their cognitive styles, FD or FI. There is no statistically significant difference in specific metacognitive reading strategies between FD and FI participants (2 = 19.35, p = 0.43), while FD participants used specific metacognitive reading strategies more frequently than FI participants.

Discussion

Reading is critical for academic accomplishment (Koda, 2005), and numerous researchers (Brown, 1987; O'Malley & Chamot, 1990) have demonstrated that metacognitive reading strategies play a critical role in boosting reading comprehension. As a result, this study identified the metacognitive reading techniques utilized by students and evaluated the association between FI/FD cognitive styles and metacognitive strategies. The following sections highlight the major conclusions based on the data analysis.

To address the first research question, the mean score indicated that students' overall use of metacognitive reading methods is greater than 3.5. According to Oxford and Burry-(1995), a stock's established strategy utilization criteria, a mean score of learning strategies greater than 3.5 indicates that strategy usage is high. None of the fifteen techniques specified in MARSI-R fell into the low utilization category. The findings reveal that individuals are acutely aware of their metacognitive processes when it comes to reading comprehension. They are able to utilize these tactics to plan ahead of time, monitor their reading, and evaluate their reading afterwards. They are aware of their cognitive processes when reading and can employ various metacognitive tactics to improve their reading comprehension. Numerous more research (Sheorey and Mokhtari, 2001; Zhang, 2008) confirmed these findings,

indicating that ESL readers are generally aware of their metacognition and capable of utilizing various reading methods ranging from moderate to high frequency to accomplish their aims.

Additionally, participants most frequently employ Problem-Solving Strategies, followed by Global Strategies and Support Strategies, for the three sub-strategies. They claimed that they frequently employed all five Problem-Solving techniques, three of the five Global Methods, and one of the five Support strategies while reading. The results indicated that PSS was the most frequently used of the three sub-strategies, which corresponded to a prior study conducted by Mokhtari and Reichard (2002). Sheorey and Mokhtari (2001) further assert that non-native readers prefer problem-solving procedures since they are crucial for comprehension and immediately address reading issues. Nonetheless, the Support reading techniques were shown to be the least frequently used of the three sub-strategies. The limited usage of these tactics may be due to participants' unwillingness to engage in these time-consuming activities. However, prior research, such as that conducted by Sheorey and Mokhtari (2001), indicated that ESL learners, on average, employ more Support Strategies than native speakers, because learners with low language proficiency rely on dictionaries or other support mechanisms to assist them in reading.

To address the second study question, the findings indicate that while FI individuals utilize much more metacognitive reading methods than FD participants, there is no statistically significant difference in their overall use of metacognitive reading strategies. Several research, like those by Davis (1987) and Zahra Naimie (2010), assert that FI students employ more metacognitive methods than their FD counterparts. Other studies, such as Liu and Reed (1994), reveal that FI learners are more adept at planning their learning processes than FD learners. Additionally, Abraham (1985) indicates that FI students monitor their learning processes more frequently and closely than FD students. Finally, FI students appear to have greater insight and awareness of their learning process than FD students (Tinajero and Parramo, 1998). As a result, one may argue that FI students employ more metacognitive methods than FD students. Although there was no statistically significant difference in the overall metacognitive reading strategies of FI and FD individuals, the application of two sub-strategies, SRS and GRS, revealed statistically significant differences. This suggested that FI and FD pupils had distinct GRS and SRS preferences. However, all of these subjects indicated a preference for PSS. The differences in GRS and SRS employed by FI and FD individuals may explain their personal characteristics. For the sake of using GRS, FD participants like to reflect on their past knowledge; they prefer to study things that are relevant to their own experiences and to make connections between their prior knowledge and new information.

The theoretical implication of this study is that any comprehensive theory of second or foreign language acquisition and teaching should take into account learner diversity and cognitive styles. While the cognitive processes behind second language acquisition are not easily investigated and recognised, knowing cognitive styles provides insight into the nature of the language learning process. The present study's findings have several pedagogical implications for material developers, learners, and teachers working in teaching English as a Foreign Language (TEFL) in general, and teaching language learning methodologies in particular. This study collected data using a self-report reading strategy questionnaire; future studies could utilise alternative data-gathering instruments such as diaries, think-aloud protocols, or a combination of them.

Conclusion

As stated previously, the purpose of this study was to examine the role of field-dependence/independence cognitive style in Turkish EFL learners' use of general and specialized cognitive and metacognitive reading methods. The findings indicated that field dependence/independence cognitive style might play a significant role in Turkish EFL learners' use of general metacognitive and specific cognitive reading strategies. FD participants used these strategies significantly more frequently than their FI counterparts. Previous research indicated that it would be beneficial for students to recognise the existence of cognitive styles and to understand their

field reliance, as well as to make effective use of them. Students should be aware of their cognitive style, familiar with its characteristics, and knowledgeable about the advantages and disadvantages of each type to capitalize on its advantageous characteristics. They will then be able to determine which reading activities are appropriate for their cognitive style and which problems are generated. Thus, students can leverage the benefits of their cognitive type to accelerate their learning and choose appropriate reading tactics to overcome obstacles. Additionally, this study might be beneficial in Turkey, as there are very few previous studies examining the relationship between ESL learners' cognitive style and their reading metacognitive strategy selection. Thus, it is intended that this study will assist learners and teachers in developing a better understanding of cognitive styles and how they may affect learning, as well as a greater awareness of the relevance of metacognition and the application of metacognitive methods.

References

Abraham, Roberta G. "Field Independence-Dependence and the Teaching of Grammar." *TESOL Quarterly,* vol. 19, no. 4, 1985, pp. 689-702.

Afflerbach, Peter. *Understanding and Using Reading Assessment K-12*. International Reading Association, 2007.

Auerbach, Elsa Roberts, and Diane Paxton. "It's Not the English Thing: Bringing Reading Research into the ESL Classroom." *TESOL Quarterly*, vol. 31, no. 2, 1997, pp. 237-61.

Brantmeier, Cindy. "Second Language Reading Strategy Research at the Secondary and University Levels: Variations, Disparities, and Generalizability." *Reading Matrix*, vol. 2, no. 3, 2002.

Brown, A. "Metacognition, Executive Control, Self-Regulation, and Other More Mysterious Mechanisms." *Metacognition, Motivation, and Understanding*, edited by F. Weinert, and R. Kluwe, Lawrence Erlbaum, 1987, pp. 65-116.

Brown, H. Douglas. *Principles of Language Learning and Teaching*. Longman, 2000.

Chappelle, Carol, and Cheryl Roberts. "Ambiguity Tolerance and Field Independence as Predictors of Proficiency in English as a Second Language." *Language Learning*, vol. 36, no. 1, 1986, pp. 27-46.

Christison, M.A. "Learning Styles and Strategies." *Practical English Language Teaching*, edited by D. Nunan, Tata McGraw Hill, 2003, pp. 267-88.

Cohen, Andrew D. *Strategies in Learning and Using a Second Language*. Routledge, 2014.

Di Martino, Valeria, and Alessandra La Marca. "Assessing Metacomprehension and Metacognitive Reading Strategies." *IOSR Journal of Research & Method in Education*, vol. 9, no. 2, 2019, pp. 38-48.

Drnyei, Zoltan. *The Psychology of the Language of the Language Learner: Individual Differences in Second Language Acquisition*. Lawrence Erlbaum Associates, 2005.

Ellis, Rod. *Understanding Second Language Acquisition*. Oxford University Press, 1995.

Felder, Richard M., and Eunice R. Henriques. "Learning and Teaching Styles in Foreign and Second Language Education." *Foreign Language Annals*, vol. 28, no. 1, 1995, pp. 21-31.

Flavell, J.H. "Metacognitive Aspects of Problem Solving." The Nature of Intelligence, edited by L.B. Resnick, Lawrence Erlbaum, 1976, pp. 231-35.

Flavell, John H. "Metacognition and Cognitive Monitoring: A New Area of Cognitive-Developmental Inquiry." *American Psychologist*, vol. 34, no. 10, 1979, pp. 906-11.

Garner, R. *Metacognition and Reading Comprehension*. Ablex Publishing, 1988.

Glass, Gene V., and Kenneth D. Hopkins. *Statistical Methods in Education and Psychology*. Allyn & Bacon, 1996.

Grabe, William. "Current Developments in Second Language Reading Research." *TESOL Quarterly*, vol. 25, no. 3, 1991, pp. 375-406.

Grabe, William. *Reading in a Second Language: Moving from Theory to Practice*. Cambridge University Press, 2009.

Jonassen, David H., and Barbara Louise Grabowski. *Handbook of Individual Differences, Learning and Instruction*. Lawrence Erlbaum, 1993.

Koda, Keiko. *Insights into Second Language Reading: A Cross-Linguistics Approach*. Cambridge University Press, 2005.

Larsen-Freeman, Diane, and Michael Long. *An Introduction to Second Language Acquisition Research*. Routledge, 1991.

Li, Shuyun, and Hugh Munby. "Metacognitive Strategies in Second Language Academic Reading: A Qualitative Investigation." *English for Specific Purposes*, vol. 15, no. 3, 1996, pp. 199-216.

Mokhtari, Kouider, and Carla A. Reichard. "Assessing Students' Metacognitive Awareness of Reading Strategies." *Journal of Educational Psychology*, vol. 94, no. 2, 2002, pp. 249-59.

Mokhtari, Kouider, and Ravi Sheorey. "Measuring ESL Students' Awareness of Reading Strategies." *Journal of Developmental Education*, vol. 25, no. 3, 2002, pp. 2-10.

Mokhtari, Kouider, and B. Perry. "Using Rasch Analysis to Calibrate Students' Metacognitive Awareness and Use of Reading Strategies." *Reading Strategies of First and Second-Language Learners: See how they read*, edited by Mokhtari, Kouider, and R. Sheorey, Christopher-Gordon Publishers, 2008, pp. 67-84.

Mokhtari, Kouider, et al. "Measuring the Reading Strategies of First and Second Language Readers." *Reading Strategies of First and Second-Language Learners: See how they read*, edited by Mokhtari, Kouider, and R. Sheorey, Christopher-Gordon Publishers, 2008, pp. 43-65.

Mokhtari, Kouider, et al. "Revising the Metacognitive Awareness of Reading Strategies Inventory (MARSI) and Testing for Factorial Invariance." *Studies in Second Language Learning and Teaching*, vol. 8, no. 2, 2018, pp. 219-46.

O'Malley, J. Michael, and Anna Chamot. *Learning Strategies in Second Language Acquisition*. Cambridge University Press, 1990.

Oxford, Rebecca. *Language Learning Strategies: What Every Teacher Should Know*. Harper Collins. 1990.

Oxford, Rebecca L., and Judith A. Burry-Stock. "Assessing the Use of Language Learning Strategies Worldwide with the ESL/EFL Version of the Strategy Inventory for Language Learning." *System*, vol. 23, no. 1, 1995.

Pithers, R.T. "Cognitive Learning Style: A Review of the Field Dependent-Field Independent Approach." *Journal of Vocational Education and Training*, vol. 54, no. 1, 2002, pp. 117-32.

Pressley, Michael, and Peter Afflerbach. *Verbal Protocols of Reading: The Nature of Constructively Responsive Reading*. Lawrence Erlbaum, 1995.

Reid, Joy M. "The Learning Style Preferences of ESL Students." *TESOL Quarterly,* vol. 21, no. 1, 1987, pp. 87-111.

Shang, Hui-Fang. "Reading Strategy Use, Self-Efficacy and EFL Reading Comprehension." *The Asian EFL Journal Quarterly*, vol. 12, no. 2, 2011, pp. 18-42.

Sheorey, R., and K. Mokhtari. "Differences in the Metacognitive Awareness of Reading Strategies among Native and Non-Native Readers." *System*, vol. 29, no. 4, 2001, pp. 431-49.

Sternberg, Robert J., and Li-fang Zhang. "Thinking Styles Across Cultures: Their Relationships with Student Learning." *Perspectives on Thinking, Learning and Cognitive Styles*, edited by R.J. Sternberg and L.F. Zhang, Lawrence Erlbaum, 2001, pp. 227-47.

Teng, Feng. "Immediate and Delayed Effects of Embedded Metacognitive Instruction on Chinese EFL Students' English Writing and Regulation of Cognition." *Thinking Skills and Creativity*, vol. 22, 2016, pp. 289-302.

Tinajero, Carolina, and M. Fernando Paramo. "Field Dependence-Independence Cognitive Style and Academic Achievement: A Review of Research and Theory." *European Journal of Psychology of Education*, vol. 13, 1998, pp. 227-51.

Wenden, A.L., and J. Rubin. *Learner Strategies in*

Language Learning. Prentice-Hall, 1987.

Witkin, H.A. "Individual Differences in Ease of Perception of Embedded Figures." *Journal of Personality*, vol. 19, no. 1, 1950, pp. 1-15.

Witkin, H.A., and S.E.Asch. "Studies in Space Orientation, III. Perception of the Upright in the Absence of Visual Field." *Journal of Experimental Psychology*, vol. 38, no. 5, 1948a, pp. 603-14.

Witkin, H.A., and S.E.Asch. "Studies in Space Orientation, IV. Further Experiments on Perception of the Upright with Displaced Visual Field." *Journal of Experimental Psychology*, vol. 38, no. 6, 1948b, pp. 762-82.

Witkin, Herman A., et al. *Group Embedded Figures Test*. Consulting Psychologists Press, 1971.

Wu, Chia-Pei. *An Investigation of Metacognitive Reading Strategies used by EFL Taiwanese College Students to Comprehend Familiar Versus Unfamiliar Chinese and English Texts*. University of Idaho, 2005.

Zhang, Lawrence Jun. "Constructivist Pedagogy in Strategic Reading Instruction: Exploring Pathways to Learner Development in the English as a Second Language (ESL) Classroom." *Instructional Science*, vol. 36, no. 2, 2008, pp. 89-116.

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