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YILDIZ TECHNICAL UNIVERSITY
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DEPARTMENT OF FOREIGN LANGUAGES EDUCATION
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MASTER'S THESIS

DEVELOPING CRITICAL READING SELF-EFFICACY IN SECONDARY SCHOOL EFL LEARNERS VIA THE SIX THINKING HATS TECHNIQUE

YUSUF SEFA ÖZTÜRK
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SUPERVISOR
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Yusuf Sefa ÖZTÜRK tarafından hazırlanan “Developing Critical Reading Self-Efficacy in Secondary School EFL Learners via the Six Thinking Hats Technique” başlıklı çalışma, **17/06/2025** tarihinde yapılan savunma sınavı sonucunda oybirliği ile başarılı bulunmuş ve jürimiz tarafından Yabancı Diller Eğitimi Ana Bilim Dalı İngiliz Dili Eğitimi Programında **YÜKSEK LİSANS** tezi olarak kabul edilmiştir.

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Jüri Üyeleri	**İmza**
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Doç. Dr. CİHAT ATAR	……

ABSTRACT

DEVELOPİNG CRİTİCAL READİNG SELF-EFFİCACY İN SECONDARY SCHOOL EFL LEARNERS VİA THE SİX THİNKİNG HATS TECHNİQUE

This study investigates the effectiveness of the Six Thinking Hats (STH) technique, developed by Edward de Bono, in enhancing the critical reading self-efficacy of seventh-grade EFL learners. Employing a quasi-experimental mixed-methods design, the research was conducted with 50 female students from a public religious secondary school in Istanbul. The experimental group received structured critical reading instruction through the STH framework across four monthly sessions, while the control group engaged with the same texts through researcher-developed, traditional higher-order thinking questions presented in print format. The Critical Reading Self-Efficacy Scale (Karadeniz, 2014) was administered to all participants as both a pre-test and post-test.

Quantitative analysis revealed no statistically significant difference between the two groups; however, descriptive statistics indicated moderate gains in both. The mean self-efficacy score of the experimental group increased from 126.80 (SD = 14.01) to 130.40 (SD = 13.77), while the control group's score rose from 128.92 (SD = 14.29) to 132.28 (SD = 12.71). Noticeable, though small, improvements were observed in the experimental group's "Inquiry" (from 37.92 to 38.80) and "Analysis" (from 26.08 to 27.20) sub-dimensions.

To further contextualize these findings, semi-structured focus group interviews were conducted with the experimental group. Thematic analysis of the qualitative data revealed that students found the STH method engaging, collaborative, and cognitively stimulating. Nevertheless, participants reported difficulties in articulating complex ideas in English. Despite the similar outcomes between the experimental and control groups, the STH framework demonstrated additional pedagogical benefits by promoting student engagement and encouraging a wider range of cognitive strategies.

Keywords: English as a Foreign Language, critical reading, Six Thinking Hats, critical thinking, secondary school students, structured thinking, critical thinking

ÖZET

ALTI ŞAPKALI DÜŞÜNME TEKNİĞI ILE ORTAOKULDAKI YABANCI DIL ÖĞRENCILERININ ELEŞTIREL OKUMA ÖZ YETERLIKLERININ GELIŞTIRILMESI

Bu çalışma, Edward de Bono tarafından geliştirilen Altı Şapkalı Düşünme (AŞD) tekniğinin yedinci sınıf İngilizceyi yabancı dil olarak öğrenen öğrencilerin eleştirel okuma özyeterliklerini geliştirmedeki etkililiğini incelemektedir. Yarı deneysel karma yöntem deseninin kullanıldığı araştırma, İstanbul'daki bir devlet kız imam hatip ortaokulunda öğrenim gören 50 kız öğrenciyle gerçekleştirilmiştir. Deney grubuna, dört aylık süreçte her ay bir kez yapılandırılmış AŞD temelli eleştirel okuma etkinlikleri uygulanırken; kontrol grubu, aynı metinler üzerinde araştırmacı tarafından hazırlanan geleneksel, üst düzey düşünme becerilerini hedefleyen yazılı sorularla çalışmıştır. Tüm katılımcılara Karadeniz (2014) tarafından geliştirilen Eleştirel Okuma Özyeterlik Ölçeği ön test ve son test olarak uygulanmıştır.

Nicel analiz sonuçları gruplar arasında istatistiksel olarak anlamlı bir fark ortaya koymamış; ancak tanımlayıcı istatistikler her iki grupta da ölçülü artışlar olduğunu göstermiştir. Deney grubunun ortalama özyeterlik puanı 126.80 (SS = 14.01) iken uygulama sonrasında 130.40'a (SS = 13.77) yükselmiştir. Kontrol grubunun puanı ise 128.92'den (SS = 14.29) 132.28'e (SS = 12.71) çıkmıştır. Deney grubunun "Sorgulama" (37.92'den 38.80'e) ve "Analiz" (26.08'den 27.20'ye) alt boyutlarında küçük ancak dikkat çekici ilerlemeler gözlemlenmiştir.

Bu nicel bulgulara daha derin bir bağlam kazandırmak amacıyla deney grubuyla yarı yapılandırılmış odak grup görüşmeleri gerçekleştirilmiştir. Nitel verilerin tematik analizi, öğrencilerin AŞD yöntemini hem iş birlikçi hem de zihinsel olarak uyarıcı bulduklarını ortaya koymuştur. Öğrenciler, yapılandırılmış düşünme sürecinin metinleri çok yönlü değerlendirmelerine olanak sağladığını ve öğrenme sürecini daha ilgi çekici hale getirdiğini ifade etmişlerdir Bununla birlikte, katılımcılar karmaşık fikirleri İngilizce ifade etmede zorlandıklarını belirtmişlerdir. Deney ve kontrol grupları arasındaki nicel sonuçlar benzer olsa da AŞD yöntemi, öğrenci katılımını artırma ve çeşitli bilişsel stratejileri teşvik etme açısından ek pedagojik avantajlar sergilemiştir.

Anahtar Kelimeler: Yabancı dil olarak İngilizce, eleştirel okuma, Altı Şapkalı Düşünme, yapılandırılmış düşünme, ortaokul öğrencileri, eleştirel düşünme

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Writing this thesis has been the most demanding yet rewarding academic journey of my life. It came with countless late nights, moments of uncertainty, and numerous revisions. Yet through it all, it brought genuine discoveries, personal growth, and a quiet sense of fulfillment. What made this journey possible was not only determination but also the invaluable support, guidance, and belief of those around me.

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To my students, this thesis would not exist without you. Your honest reflections, curiosity, and enthusiastic participation turned this project into something far more meaningful than I had envisioned. It was your voices and experiences that brought life to these pages and moved this research beyond theoretical boundaries.

To my family, thank you for being my unwavering foundation. Your love, patience, and constant belief in me gave me the strength to persist during the toughest moments. Through every success and setback, your presence has never wavered.

And to my father, you have always been my compass. Quietly strong, endlessly supportive, and wise in your guidance, you didn't just point the way when I was lost — you illuminated it. This thesis, in more ways than one, carries your spirit and strength within it.

After all the guidance and support, there came a point where it was just me and the page. No spotlight, no crowd. Just long nights, quiet persistence, and a promise to finish what was started.

I sincerely hope that this work may shine a small light for those teachers who pour their hearts into the classroom while never losing sight of the value of theory. It brings me quiet joy to believe that I've created something that might, in its own way, support their valuable efforts.

Yusuf Sefa Öztürk

June, 2025; İstanbul

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

STH	: Six Thinking Hats Technique
EFL	: English as a Foreign Language
CCTDI	: California Critical Thinking Disposition Inventory
CCTST	: California Critical Thinking Skills Test
WGCTA	: Watson-Glaser Critical Thinking Appraisal
SD	: Standard Deviation
SPSS	: Statistical Package for the Social Sciences
L1	: First Language
ZPD	: Zone of Proximal Development
EAP	: English for Academic Purposes
ELT	: English Language Teaching
TESOL	: Teaching English to Speakers of Other Languages

1. INTRODUCTION

1.1. Background to the Study

In today's information age, education requires students to acquire knowledge and develop their critical thinking and analytical skills. In this context, the term " critical thinking" in the literature is becoming increasingly important. Ennis (1989) defines critical thinking as a purposeful and reflective cognitive process that makes reasoned judgments about what to believe or do. Dewey (1933) sees “suspend judgment” as an essential component of critical thinking because it enables individuals to engage in deep and rigorous analysis and to go through a deliberate and purposeful thinking process rather than just accepting information as it comes in, thus asserting that reflective thinking underlies all meaningful critical thinking processes.

While the definition of critical thinking provides a theoretical foundation, knowledge of the characteristics of a well-trained critical thinker is essential for its everyday applications and implications. According to Paul and Elder (2008), a critical thinker exhibits several key traits, such as raising vital questions, gathering and assessing relevant information, and coming to well-reasoned conclusions. Bloom's Taxonomy (1956) places critical thinking at the highest levels of cognitive processes, emphasising skills such as analysing, evaluating and creating as essential components. Bloom’s framework identifies six levels, with higher-order skills like analysis, synthesis, and evaluation vital for critical thinking (Anderson & Krathwohl, 2016). In the 21st century's digital and information-saturated world, these skills are one of the cornerstones that enable individuals to access the right information, filter it critically and generate creative solutions. The Partnership for 21st Century Skills (2009) framework defines these competencies as integral to individuals' academic and professional success.

Sternberg and Halpern (2020, p. 12) point out that critical thinking is not limited to only psychology or philosophy; almost all disciplines also share many aspects of critical thinking by requiring students to engage in analysis for assessing

their knowledge using some essay formats such as ‘compare and contrast’. Traditional critical thinking instruction provides an adequate theoretical basis but perhaps too abstract to be helpful to the language learner. Having to know the theory is essential, but applying these skills in a practical way is far too often an issue. When students start to examine their own thinking processes, their learning improves significantly. Flavell (1979) suggests metacognitive strategies enable learners to control and moderate their cognitive processes and this strengthens their problem-solving capacity and capacity to process difficult information. In language learning this metacognition leads to enhanced processing and analysis of information. A structured approach like De Bono’s Six Thinking Hats works well in this context because it actively guides learners to shift between different perspectives.

Likewise, structured approaches to critical thinking can also be understood through Vygotsky’s (1978) concept of the Zone of Proximal Development (ZPD). This idea suggests that learners progress best when they receive guidance that helps them move beyond what they can do alone towards what they can achieve with structured support. In language learning, scaffolded techniques play a key role in developing higher-order thinking skills by providing this kind of support. A structured approach, such as De Bono's Six Thinking Hats, corresponds well with this principle since it helps students to consciously navigate between different views. In doing so, it develops their critical thinking skills and enables them to use language more effectively and naturally.

1.2. Statement of the Problem

Much like broader language teaching, traditional EFL reading instruction often prioritises linguistic accuracy through grammar drills and vocabulary memorization by focusing more on comprehension. While these methods can be helpful in the early stages of learning, they may not be enough to develop higher-order thinking skills. Oxford (2003) states that mnemonic techniques are very useful at the beginning stages of language learning; however, their utility decreases as learners acquire more advanced cognitive and metacognitive abilities. In addition, this implies that over-reliance on rote memorization can be detrimental to language learners' ability to critically approach texts and achieve a higher level of knowledge understanding.With this in mind, critical reading is important in the EFL field because it allows students to

go beyond the surface meaning and comment on what is presented out of context. To highlight the importance of dealing with texts in EFL settings, Wallace (1992, 80) mentions how working with texts in EFL classes makes students feel free to choose how they handle the text and help them develop a relationship with the writer more equally. Furthermore, according to Scholes (1985), reading texts in a critical way allows students to examine the underlying ideologies of these texts and to construct their own views in response. Critical reading also develops the intercultural competence of learners of other languages. As Enright and Quinlan (2010) suggest integrating linguistic, social, political, and cultural elements into EFL reading can significantly enhance academic literacy by connecting texts to students' experiences and cultures.

When students start analysing texts in their first language, they are more likely to become successful in comprehending different cultural perspectives in the target language. Kramsch (1993) argues that reading texts through an intercultural lens enables one to detect cultural differences between their native culture and the target culture which makes critical reading skills essential for intercultural reading. According to Byram (1997) texts function as cultural artefacts which both reflect and create societal values. Learners who practice critical reading go past word comprehension to discover the cultural and ideological elements embedded in texts. Through critical reading students learn to challenge dominant beliefs while exploring multiple viewpoints which helps them build better intercultural understanding. According to Grabe (1997) critical reading represents a complex term which requires multiple sub-components to achieve higher-order thinking skills and he acknowledges that developing these skills in EFL classes proves challenging and time-consuming. According to him the effort is definitely worthwhile. The complexity of developing critical reading skills demands the implementation of new creative approaches.

The Six Thinking Hats Technique, which was put forward by Edward de Bono in 1985, can be a great tool to effectively enhance foreign language learners' critical reading skills in the classroom. Having the opportunity to look from different perspectives may play a key role in the development of critical reading skills. Edward de Bono (1985) states that the technique's purpose is to allow thinkers to structure the thinking process by separating thinking into different modes instead of handling multiple aspects at once. While previous studies have discovered critical thinking and

reading separately, limited research has examined how structured thinking techniques, such as the Six Thinking Hats, can systematically foster critical reading skills in EFL settings.

1.3. Purpose of the Study

This study aims to investigate the extent to which critical reading skills in EFL classrooms can be enhanced through the structured application of the Six Thinking Hats technique. Specifically, it seeks to explore the potential of this technique in developing multidimensional thinking, encouraging deeper textual analysis, and promoting higher-order cognitive engagement among learners. Research Questions (RQs):

1. How does the use of the Six Thinking Hats technique influence students' approach to multidimensional thinking and deep textual engagement in EFL reading?
2. How does using higher-order thinking questions in reading materials from coursebooks impact students' critical reading skills compared to using traditional comprehension-level questions?
3. Do students engaging with critical reading through the Six Thinking Hats technique demonstrate a greater improvement in critical reading skills compared to students guided only by traditional print-based critical reading questions, despite working with identical texts?

1.4. Significance of the Study

According to Spears (1999), critical reading does not only mean reading 'critically' in the form of finding mistakes; it involves analysing the text carefully, making sound judgments and using critical thinking abilities. It promotes being open-minded and requires individuals to evaluate information without prejudice and not reject an opinion just because it does not fit into their minds (Spears, 1999).

When combined with a structured thinking technique, critical reading will play a crucial role in fostering higher-order thinking skills alongside the linguistic skills of language learners. Students engage these cognitive processes through critical reading, going beyond basic understanding to question, analyse, and reach conclusions (Paul &

Elder, 2008). This interplay emphasizes the importance of integrating critical thinking and reading in education (Facione, 1990). Beaumont (2010), indicates that critical reading involves decision-making through interpretation, synthesis, and analysis. Critical reading is often considered a logical process that focuses on analysis, objective evaluation, implications, and deep thinking.

Practising critical reading with the Six Thinking Hats technique would enable students to develop structured thinking through collaboration in a multimodal framework. Learners will build their systematic thinking process by having various perspectives with each hat in the method while reading the text critically. The technique helps students to deconstruct complex texts through a structured questioning manner. In a way, using this technique in language classrooms also aligns with the task-based language Teaching, where cognitive engagement drives language acquisition (Ellis, 2003). The six hats thinking technique offers a structured framework to improve foreign language learning by addressing distinct cognitive and linguistic aspects during text analysis. Each 'hat' addresses a special gap in a pedagogical way. Consequently, the technique not only promotes multi-layered thinking as opposed to one-dimensional thinking but also promotes collaborative language learning.

1.5. Definition of Key Terms

Critical Thinking: A purposeful and reflective cognitive process that makes reasoned judgments about what to believe or do (Ennis, 1989).

Critical Reading: Analysing the text carefully, making sound judgments, and using critical thinking abilities to evaluate information without prejudice (Spears, 1999).

Six Thinking Hats Technique: A structured thinking process that separates thinking into distinct modes (e.g., analytical, creative, emotional) to enhance decision-making (de Bono, 1985).

EFL (English as a Foreign Language): Contexts where English is taught in environments where it is not the dominant language (Kachru, 1986).

Bloom's Taxonomy: A hierarchical framework classifying cognitive educational objectives into six levels of complexity, from basic knowledge recall to advanced evaluation and creation (Bloom et al., 1956; Anderson & Krathwohl, 2001).

1.6. Assumptions

The Six Thinking Hats technique is assumed to offer a structured approach that enables students to engage with texts through multiple thinking perspectives. The participants received identical national curriculum instruction, yet different teaching methods produced distinct learning outcomes.

The research assumes that using structured thinking strategies with coursebook texts leads to better critical reading subskill development than traditional comprehension-based activities.

The self-efficacy scale received honest responses from students who actively took part in the intervention. Students showed different preferences for thinking hats based on their individual personality traits, learning preferences, and emotional reactions during the sessions.

2. LITERATURE REVİEW

2.1. Critical Thinking: From Theory to Practice

At the nature of the human being lies core instincts such as curiosity, interrogation, and the search for meaning. Even in the days of the first humans, there were problem-solving skills and evaluating alternatives to light the first fire, discover agriculture, and communicate using symbolic languages. However, this instinctive thinking converted into a conscious process with time. The dialectical questioning of Socrates in Ancient Greece, the moral reasoning of Confucius in China, and the historical criticism of Ibn Khaldun in the Golden Age of Islam show that critical thinking is a heritage that transcends cultures and eras. Today, this heritage is being reshaped by complex issues such as global crises in the information overload world of the digital age.

Philosopher John Dewey (1933) has been accepted as the father of the term critical thinking. His reflective thinking theory was considered as a founding element of critical analysis, highlighting the importance of active and deliberate reasoning over passive acceptance.

Glaser (1941) defined critical thinking as "(1) an attitude of considering in one's own original thoughtful way, (2) knowledge of the methods of logical enquiry and reasoning, and (3) some skills applying those methods. Furthermore, he emphasized that critical thinking is the ability to examine any belief or form of knowledge in the light of the evidence that supports it and reaching a solid conclusion after examination.

According to Ennis (1991), critical thinking is a reflective, reasonable way of thinking focused on what to believe or do.

Lipman (1988), describes critical thinking as skillfull, responsible thinking which is useful to reach a good judgement by relying on a strong criteria and is self-correcting.

Scriven and Paul (1987) define critical thinking as an intellectually disciplined process that involves actively and efficiently conceptualizing, applying, analyzing, synthesizing, and evaluating information to guide belief and action. This definition

shows critical thinking as a systematic progress rather than a singular act, which underscores distinct but interconnected cognitive phases.

At the core of critical thinking lies Bloom's Taxonomy. As the taxonomy provides a complementary framework to unpack this definition by categorizing cognitive phases into a hierarchical structure. Critical thinking begins with foundational skills like remembering facts (e.g., identifying key terms) and understanding basic meanings (e.g., summarizing texts), which enable learners to engage with content. Building on this foundation, applying knowledge involves using knowledge in new contexts (e.g., connecting a text's argument to real-world scenarios). Then, analyzing involves deconstructing complex ideas (detecting biases or examining rhetorical strategies); on the other hand, evaluating requires judging the validity, relevance, and ethics of arguments. Ultimately, critical thinking results in creativity by making students synthesize different ideas into innovative solutions. At the end of these phases, students blend their strong analysis skills with creative synthesis as the taxonomy suggests.

In the Delphi Report for the American Philosophical Association, Facione and a panel of experts (1990) described critical thinking as a purposeful self-regulating process that entails explaining evidential, conceptual, criteriological, or contextual considerations and results in interpretation, analysis, evaluation, and inference.

In this context, Elder and Paul (2013) define critical thinking as a self-guided and self-disciplined conscious process that seeks the highest level of reasoning in a fair manner. They emphasize that ideal critical thinkers take charge of the structures in their thinking process and are aware of the essential flaws in human thinking and actively work to minimize their biases by employing intellectual tools such as analysis, assessment, and refinement of thought.

In the cognitive psychologist Halpern's words, critical thinking is "the use of cognitive skills or strategies that increase the probability of a desirable outcome" (Halpern, 1996, p. 5).

According to Köksal (2005), critical thinking is a process of perception, evaluation, and decision-making based on the idea that information can be obtained, controlled, purified from elements that distract from objectivity, and deduced to create behavioral change in individuals.

Güzel (2005), claims critical thinking is a must-learn survival ability for a better life. In the same direction, Kurudayıoğlu and Çelik (2009) asserts that critical thinking is a skill every individual should obtain for a better life.

Considering the definitions given by prominent authors, critical thinking is a vital survival life skill that every individual should gain. By analyzing prejudices, questioning assumptions, and synthesizing different perspectives, it encourages conscious judgment and resilience to misinformation. In a world where urgent decisions may cause ethical, financial, and or social problems, this skill emerges as a life saver because it bridges the gap between raw data and actionable wisdom. That's why an individual needs to gain this skill.

With this in mind, an ideal critical thinker has specific qualifications. According to several scholars (Ennis, 1985; Halpern, 1998; Hamby, 2015), an individual should possess thirteen dispositions to become an ideal critical thinker. These dispositions are the attitudes and habits that enable an individual to apply critical thinking skills. For example, Ennis (1985) highlights dispositions such as 'seeking reasons' and 'being open-minded' (p. 46). According to him, people with strong critical thinking dispositions do not just react; they actively seek evidence and justification before jumping to conclusions. Halpern (1998), on the other hand, underscores the motivational side by defining disposition as the "willingness to think critically" (p. 452). He claims that this willingness is what pushes individuals to question assumptions and dig deeper with interrogating broader rather than accept the information at face value. However, Hamby (2015) takes it further and he calls these dispositions as "critical thinking virtues" (p. 79). These virtues include motivations, habits, and tendencies that guide someone toward fair and careful inquiry. Critical thinkers habitually question textual ambiguities and seek clarifications, unlike passive learners who accept surface meanings.

2.2. Critical Reading in Foreign Language Teaching

In a foreign language context, reading is one of the four key skills to master. Language users generally deal with large texts in their learning journey. According to Grabe (2009), the purpose of reading is to draw meaning from a printed text. A reader should understand what he or she reads. However, reading should not be limited only on the comprehension level. Since reading is an important part of the language learning

process, taking the maximum benefit from this journey should be the learning goal. This is why critical reading is an important tool for foreign language education. In the context of language education (EFL), Wallace (2003) states that critical reading goes beyond this basic comprehension. It contains a practical interpretation and evaluation of the text. According to him, readers should engage with what they read and interrogate the text's content and the author's bias and underlying assumptions rather than understand the text at face value. In order to better understand the cognitive and analytical demands of critical reading, Table 1 summarizes its key differences from basic reading.

Table 1. A Comparison Between Basic and Critical Reading

	Reading	**Critical Reading**
Purpose	Understanding the general message of a text	Evaluating HOW a text delivers its message and the way it works
Reader Activity	Receiving and grasping meaning	Engages actively with the text by questioning, analyzing, and interpreting its meaning.
Focus	The surface-level content or what is explicitly SAID	The underlying MEANING and how it is CONSTRUCTED
Guiding Questions	-"What does this passage say?" -"What is the main idea?"	- "How does the text present its arguments?" - "What choices does the author make in structuring the text?" -"What rhetorical or logical patterns can be seen?" - "What types of reasoning or evidence are used?" - "What assumptions underlie the text?" - "What deeper meaning can be drawn from the content?"
Reader Stance	WITH the text (accepts information as valid and reads in alignment with the author's voice.)	AGAINST the text (reads with a critical lens, seeking bias, gaps, or persuasive techniques.)

Response outcome	Summary or restatement of content.	Evaluation, interpretation, and formulation of independent judgments.

Adapted from Differences between Reading and Critical Reading by J. Duncan, n.d., University of Toronto Libraries

Similarly, Spears (2012) describes critical reading as "going beyond simple text comprehension" by consciously interpreting and evaluating a text. Rather than passively reading, a critical reader interacts with the text by analyzing the author's arguments, evidence, and language tone in order to form a reasoned judgment about the text's meaning and reliability.

According to Pardede (2007), critical reading involves a process of consciously comprehending, interrogating, and evaluating a text to assess the accuracy and validity of an author's ideas.

A recent systematic review by Van et al. (2022) describes critical reading as "an enhanced thinking process" in which discussion, questioning, and constructive language are used to examine what readers read. According to them, the purpose of this process is to figure out "what is reliable and what is not credible in a text". This modern definition highlights that the critical reading can be considered as a form of critical thinking in action where readers cooperate or reflect to simplify complex concepts and confirm the credibility of new information.

Flemming (2011,10) connects critical reading closely with understanding and emphasizes that a solid mastery of the text is crucial before engaging with critical reading.

Various scholars have offered various definitions of critical reading. While they vary in focus, a common theme connects the perspectives. Critical reading is a process that involves active and reflective intellectual engagement while reading the text. It combines understanding and criticism by demanding readers to not only decode meaning but also examine the writer's aim, inquire opinions, and measure data against personal information or outer sources. In EFL contexts, developing critical reading skills enables learners to handle complex texts with ease, refuse passive acceptance of information, and engage in academic or societal discourse. Essentially, it redefines reading as an active engagement among reader, text, and context, rather than an isolated act of consumption, and one that is vital to academic achievement and

educated citizenship in this era of information overload. A good critical reader can assume multiple points of view, question the author's intentions, and formulate questions about the text in question. A language learner will benefit significantly if he or she becomes a critical reader. At this point, Knott (2005, 10) proposes a 5-step critical reading analysis model for a learner who embraces critical reading:

- Critical reading begins with skimming introductions/conclusions to strategically focus analytical efforts on key sections of a text.
- Highlight or note an author's *analytical moves*, conceptual frameworks, and conclusions, prioritize argument structure over isolated facts or examples.
- Maintain *contextual awareness*: analyze how a text excerpt fits into its original whole argument before integrating it into your own work.
- Use quotations critically by framing them with your analysis, not as replacements for your voice; always follow quotes with interpretive commentary.
- Apply critical reading skills to lectures by listening for discipline-specific *ways of thinking*, not just information absorption.

Critical reading has various subskills, and these contribute to education in the direction of enhancing students' analytical, evaluative, and interpretative abilities.

These subskills include as cited in Karadeniz (2014);

Analysis, which involves identifying and understanding the structure and content of the text (Maker & Lineer, 1996; Flemming, 2011). This subskill enables learners to break down information into smaller parts for better comprehension.

Evaluation, which involves judging the quality and reliability of the information (Facione, 2007; Pirozzi, 2003; Darch & Kammenui, 1987). Through evaluation, readers can distinguish between credible and biased information.

Synthesis, which requires combining information from the text with prior knowledge (Ennis & Millman, 2005). Synthesis allows students to generate new ideas by integrating diverse pieces of information.

Inference, the ability to make logical conclusions or predictions (Pirozzi, 2003; Flemming, 2011). This skill helps readers understand implicit meanings and anticipate possible outcomes.

Interpretation, which involves understanding the deeper meaning of the text (Collins, 1993; Devoogd, 2008; Facione, 2007). Interpretation supports the development of insightful and context-aware reading.

Questioning, where the reader critically explores the motives, assumptions, and biases (Adler, 1992; Freire & Macedo, 1987). Effective questioning leads to reflective thinking and a deeper engagement with the text.

Finding Similarities and Differences, which helps in recognizing contrasts between ideas (Odabaş et al., 2008; Karabay, 2012). This skill enhances comparison-based understanding and strengthens conceptual clarity.

2.3. The Relationship Between Critical Thinking and Critical Reading

Critical reading and critical thinking are interconnected, as the latter gives rise to the intellectual structure that facilitates the effective application of the former. Critical thinking involves reasoning, evaluation, and judgment (Facione, 1990); as a result, the practice of reading critically is its material manifestation when dealing with printed content. Without thinking critically, reading can only be a superficial endeavor without the requisite depth for deep interpretation, assessment of arguments, as well as the spotting of bias or implied assumption.

Facione (1990) defines critical thinking as a self-directed and intentional process of judgment that includes interpretation, analysis, evaluation, inference, and explanation. All of these are the particular subskills involved while practising critical reading. Paul and Elder (2008) similarly emphasize that reading, that if reading is separated from critical thinking, the act of reading turns into simple decoding without understanding or engagement with the text. This is further supported by Spears (1999), who states that critical reading requires the application of analytical judgment and objectivity to evaluate texts successfully. In the same direction, according to Hall & Piezza (2008), whether they are apparent or hidden, all texts have a ideological message or

Empirical evidence supports the close relationship between these two domains. Younis et al. (2023) found that while undergraduate students expressed confidence in their reading abilities, their performance in tasks requiring critical thinking was

considerably weaker. The findings indicated that students lacked the higher-order cognitive processes necessary for critical reading despite basic comprehension skills. Hidayati et al. (2020) revealed that there was a significant relationship between critical reading and critical thinking, and both of them accounted for more than 70% of the variance in reading comprehension of students, showing the interrelated development of the skills involved in proficient reading. Paige (2024) further demonstrated that inductive and deductive reasoning- key elements of critical thinking- were strong predictors of reading comprehension, more so than fluency, underscoring the necessity of analytical skills in reading development.

Sari (2018) identified a significant positive correlation between secondary school students' critical thinking levels and their reading comprehension performance. This finding suggests that critical thinking facilitates deeper engagement with text, enabling students to discern implicit meanings, evaluate arguments, and construct well-informed interpretations. Fitriani (2019) similarly found that students with higher critical thinking dispositions demonstrated stronger outcomes in reading comprehension tasks, confirming that the two skill sets develop concurrently and reinforce one another.

Wilson (2016), in his ethnographic study of English for Academic Purposes (EAP) classrooms, argued that learners only begin to engage critically with texts when instructional practices move beyond task completion and foster active cognitive engagement. He emphasized that deliberate scaffolding of reading with critical thinking strategies is necessary to cultivate deeper comprehension and critical insight. This observation aligns with the broader view that critical reading is not merely the act of understanding text, but of interrogating it, identifying the author's intent, examining evidence, and questioning the reliability of information.

Students can engage in various creative activities to enhance their critical reading skills. For instance, they may act as literary critics by evaluating a book or story they have read, or interpret a character's internal conflict and motivations. Barton-Arwood et al. (2005) argue that effective instruction in critical reading strategies is best achieved through practical tasks that modify the structure, rather than the content, of reading materials. One-on-one sessions between teachers and students can also support the development of these strategies (Harvey & Chickie-Wolfe, 2007).

In the literature, some prominent researchers came up with reading strategies that might be helpful in the classroom application of critical reading.

The Discussion Web strategy developed by Alvermann (1991) helps students evaluate multiple perspectives regarding specific issues through collaborative work. Students who analyze both sides of an argument learn to question information and synthesize it critically. Students develop better textual understanding through this structured dialogue which also enhances their ability to make balanced judgments and reflective decisions.

The visual approach of Episodic Mapping which Davis and McPherson (1989) developed enables students to analyze narrative structures through setting and problem and episodes and resolution components. Students who break down stories into meaningful sections develop better understanding of narrative progression and causal linkages. This method strengthens student comprehension and analytical skills when they analyze fictional or biographical texts.

Through Reciprocal Teaching students and teachers switch positions to demonstrate and practice four essential strategies which include predicting, questioning, clarifying and summarizing as Palincsar and Brown (1984) originally introduced the method. The guided dialogue enables students to develop metacognitive skills which boost their reading comprehension together with critical thinking abilities. The technique works best for teaching readers to become independent thinkers who can reflect on their reading processes.

The SQ3R method which Robinson (1941) developed provides students with an organized system for active reading through Survey, Question, Read, Recite and Review steps. This method trains students to use purposeful text interactions which leads to better understanding and improved long-term retention. Through its purposeful reading approach SQ3R connects passive text consumption to active critical engagement.

The research evidence shows that critical reading represents a specific application of critical thinking within particular domains. Reading beyond literal comprehension requires the essential analytical and interpretive and evaluative skills

which form the core of critical thinking. The interconnected nature of these domains requires educational methods that develop both areas simultaneously especially when students need to handle cognitive and linguistic obstacles simultaneously in foreign language learning.

2.4. Structured Approaches to Enhance Critical Reading

Enhancing critical reading skills requires structured pedagogical approaches that intentionally scaffold students' abilities to construct meaning, analyze arguments, and reflect upon ideas. Research emphasizes explicit instructional methods, cognitive and metacognitive frameworks, visual organizing tools, and dialogic interaction as pivotal techniques to achieve deeper textual engagement and critical understanding.

Studies show that explicit teaching of reading strategies combined with metacognitive approaches leads to better academic performance by helping students read better and become more interested in reading (Thongwichit & Buripakdi, 2021). Salameh et al. (2019) further support this view, stating that cognitive strategies like summarizing, predicting, and questioning not only improve comprehension but also nurture the critical thinking abilities required for deep reading and reflection. Gao (2019) complements this assertion, noting that analytical reading methods enable learners to evaluate textual logic critically and progress from mere comprehension to profound understanding.

Graphic organizers have developed into a major structural support tool for critical reading. Rizk (2021) demonstrated that visual tools such as concept maps and Venn diagrams significantly aid EFL students by structuring their analytical processes, helping them discern connections and contrasts within texts. Yang and Mei (2024) discovered that corpus-based instructional methods help students conduct systematic pattern analysis in texts which improves their analytical abilities and self-regulated learning.

The critical cognitive engagement of students with texts is best achieved through structured instructional frameworks that incorporate dialogic teaching methods like Socratic questioning, reciprocal teaching, and debate. Moeiniasl et al. (2022) found that student performance in critical thinking tasks suffered because their

classrooms lacked activities that fostered open-ended discussions and reflective dialogue. The implementation of organized interactive methods allows students to develop essential critical reading abilities that include perspective articulation and justification and reassessment.

Nosratinia and Adibifar (2018) documented major reading comprehension improvements in EFL students who received direct instruction on critical thinking sub-skills. Students who received systematic instruction about argument evaluation and fact versus opinion recognition and assumption identification showed better critical reading development. According to Coşkun (2024) students lack the ability to enhance their metacognitive strategies without direct instruction.

The value of systematic critical reading strategies becomes stronger through applications in multiple subject areas. Social studies achievement scores increased significantly for middle school students after these strategies were incorporated into their curriculum according to Ozensoy (2021). The educational value of structured critical reading instruction extends to all curricular subjects which requires teacher training to implement this approach.

The structured methods described above transform reading from receiving information passively into an active reflective process. These practices are most important for EFL students because they must overcome both mental and linguistic barriers. When students receive structured methods to analyze texts they develop better comprehension while gaining independence in critical thinking to handle various reading materials effectively.

2.5. Six Thinking Hats Technique as a Critical Thinking Strategy

Among structured critical thinking models, Edward de Bono's Six Thinking Hats technique stands out as an innovative and systematic approach for fostering higher-order thinking. Introduced in 1985, the Six Thinking Hats strategy offers a framework in which thinking is deliberately separated into six distinct modes, each represented by a colored hat: White (information and facts), Red (emotions and feelings), Black (caution and critical judgment), Yellow (optimism and value), Green (creativity and alternatives), and Blue (organization and process control). This model

encourages learners to view a topic or problem from multiple angles, promoting intellectual flexibility and reflective reasoning (de Bono, 1985).

The strategy has proven particularly effective in educational settings due to its ability to make abstract cognitive skills more accessible through metaphorical and structured thinking roles. Kivunja (2015) argues that the technique equips learners with the ability to switch perspectives systematically and thereby fosters analytical thinking, problem-solving, and decision-making skills. He highlights that each hat activates different cognitive processes, encouraging students to think beyond habitual patterns. For instance, the Black Hat trains students in critical evaluation, while the Green Hat enhances ideational fluency and creative thought generation.

In classroom implementations, the Six Thinking Hats method has been used across various subjects- including literature, writing, and debate- to encourage multidimensional analysis and collaborative learning. Morsy and Darweesh (2021) found that students trained using the Six Hats method exhibited improved critical thinking dispositions and stronger problem-solving abilities. Similarly, Abadi (2020) reported that agricultural education students who engaged with the Six Thinking Hats approach showed notable improvements in decision-making and reflective thinking.

The structure provided by the Six Hats aligns with the instructional needs of critical reading, as each hat can be used to elicit a specific cognitive response to a text. For example, the White Hat may prompt readers to extract factual details, the Red Hat to interpret emotional undertones, and the Yellow Hat to evaluate the potential value of arguments. This segmentation encourages a comprehensive reading process where students are not only decoding but also interpreting, critiquing, and reconstructing textual meaning. According to Aithal and Kumar (2017), this technique supports lateral thinking by organizing mental processes and enabling learners to explore ideas without the interference of cognitive biases.

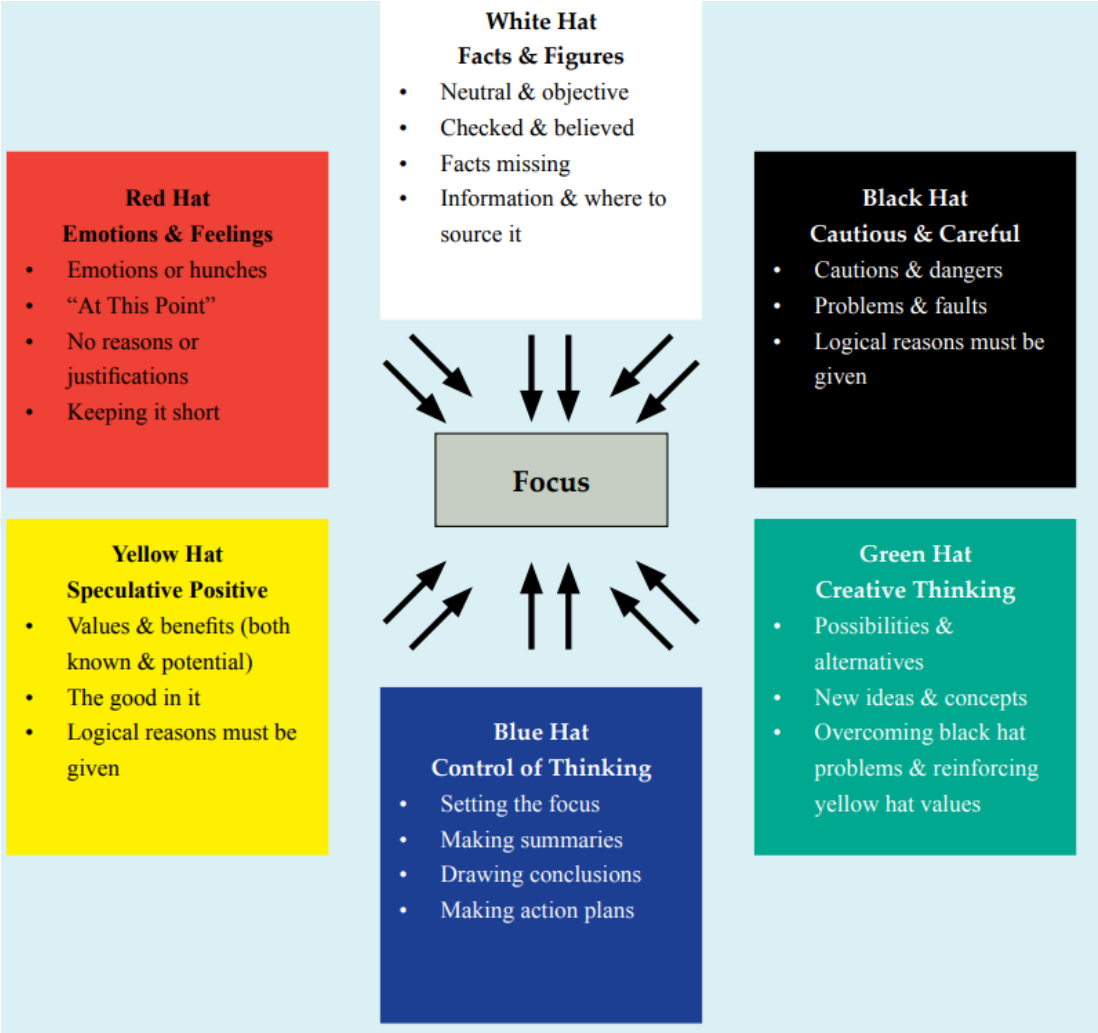
The Six Hats model also fosters collaborative and reflective dialogue in group contexts, where each student may take on a specific role, thereby ensuring balanced participation and collective meaning-making. Nassar (2020) emphasizes that the application of the Six Thinking Hats strategy promotes both cognitive and emotional engagement, especially in performance-based or discussion-oriented tasks.

Given these pedagogical benefits, the Six Thinking Hats technique presents itself as a powerful instructional tool in cultivating critical thinking and reading skills. Its capacity to activate diverse thinking dispositions in a structured manner makes it particularly suitable for integrating into critical literacy instruction. As such, the model stands as a bridge between abstract critical thinking frameworks and the concrete demands of textual analysis in academic settings.

2.6. Six Thinking Hats as The Structured Thinking Strategy in EFL Contexts

The application of Edward de Bono's Six Thinking Hats (STH) technique in English as a Foreign Language (EFL) classrooms has garnered increasing interest due to its potential to support learners' cognitive development, linguistic competence, and collaborative engagement. Within EFL settings, students often face the dual challenge of understanding a foreign language and expressing higher-order thinking through it. Structured methods such as the Six Thinking Hats offer a scaffolded, multimodal platform for addressing both demands simultaneously.

Figure 1. The Six Thinking Hats Framework.



Adapted from Wearing Six Thinking Hats by O. Serrat, 2009, Knowledge Solutions, Asian Development Bank.

The Six Thinking Hats technique divides thinking into six distinct modes: White (information), Red (emotion), Black (judgment), Yellow (optimism), Green (creativity), and Blue (process control). Each represented metaphorically by a different colored hat (de Bono, 1985). This structured model enables learners to process ideas sequentially, reducing confusion and promoting clarity. De Bono (1999) refers to this approach as "parallel thinking", where students are guided to focus on one type of thinking at a time, which enhances the depth and quality of cognitive engagement.

Research findings have proven that the STH technique serves as an effective method to enhance metacognitive awareness and self-regulated learning. Kruse (2010) states that the strategy helps students track their mental processes during complex work

which benefits language learners because reflective thinking enhances their language development. The practice of examining ideas through multiple perspectives according to Marrapodi (2003) leads to better thinking flexibility which in turn enhances both creativity and analytical interpretation abilities.

The use of structured cognitive frameworks shows great potential to develop both intercultural awareness and critical language abilities. Pinto et al. (2015) demonstrate that Six Thinking Hats structured cognitive engagement enables language learners to analyze content from different cultural viewpoints thus developing their interpretive abilities and intercultural competence which are vital for modern EFL teaching. Jesson (2012) demonstrates how structured thinking routines including STH create environments for inclusive cooperative and creative language learning discourse among students.

The STH technique demonstrates effectiveness in developing speaking and listening abilities in addition to reading and writing skills. The research conducted by Ismail (2021) demonstrated that this method enhanced both students' speaking abilities and their willingness to participate in oral activities. Through hat-switching activities students developed essential discourse functions which include description and justification and hypothesis generation and evaluation for academic and real-world language use.

Besides fostering cognitive and intercultural competences, structured thinking approaches have a significant contribution to establishing positive classroom dynamics and enhancing the participation of learners. Structured approaches like STH provide explicit roles and clear frameworks for interaction, which ensure equal student participation and provide a positive learning environment that is favorable to language practice and cognitive discovery (Akyüz, 2017).

With these theoretical underpinnings and initial empirical perspectives into the use of structured cognitive techniques such as the Six Thinking Hats in language education, it becomes even more necessary to investigate empirical research studies specifically targeting this approach. In the next section, a critical synthesis of relevant previous research on the Six Thinking Hats method in various educational contexts,

and its specific application and impact in foreign language instructional contexts, is provided.

2.7. Past Studies

2.7.1. Past Studies on the Six Thinking Hats Technique

The application of Six Thinking Hats (STH) in various educational environments produces diverse results which prove its strength and adaptability and reveal its restrictions based on implementation methods and specific objectives.

According to Carl (1996) the STH method helped university students improve their ability to think objectively and critically and generate creative ideas. The technique produced superior results from group collaboration than solitary work approaches which proved the potential of structured cognitive engagement.

The implementation of STH in an information-processing course by Belfer (2001) led to substantial improvements among students in communication and creativity along with enhanced learning quality. The STH method proved most effective for organizing productive learner exchanges through its structured format.

Keddie (2002) determined that the STH approach served as an effective tool to overcome cognitive obstacles while encouraging innovative solutions and minimizing both emotional and cognitive distress when students tackled problems. This discovery shows the method can help learners overcome psychological barriers in their educational development.

The study by Tamura and Furukawa (2007) implemented STH in virtual environmental education and discovered that participants became better at environmental issue identification and critical analysis. The structured framework of the approach resulted in producing more substantial and higher-quality ideas and questions.

Multiple research studies within language education settings have studied how the STH technique performs. Turkish language classroom research by Gelen et al. (2008) showed that students learned better through STH compared to traditional

educational methods in reading comprehension. The results demonstrate how STH proves effective for EFL reading contexts that require structured critical textual analysis. Orhan (2010) found that eighth-grade Turkish students developed better speaking abilities through the use of STH. The structured approach led to better communicative competence thus demonstrating effectiveness in oral language proficiency development.

Altınkulaç and Akhan (2010) discovered enhanced academic results together with better student attitudes in their Turkish Republic History course due to STH activities which boosted student engagement.

The application of STH through virtual learning environments (Second Life) in teacher education by Gregory and Masters (2010) showed positive effects on creativity and problem-solving capabilities and new learning approaches among participants.

The study by Grove (2011) showed that students applying STH during critical project stages gained increased creativity together with reduced cognitive biases and boosted self-confidence which could strengthen EFL learners' interpretive abilities. The implementation of a modified STH method together with theatrical techniques by Kırmızı (2012) in 11th-grade German language classes led to substantial improvements in student involvement and educational results. STH demonstrates its adaptability by showing success in both language teaching and cognitive instruction through its combination with drama techniques.

Kaya (2013) demonstrated in social studies that students who learned through STH showed better understanding of sustainability concepts while becoming more engaged in higher-order thinking which EFL education can benefit from.

The virtual learning platform Second Life became the platform where Bezir and Baran (2014) applied STH to show how students improved their ability to think critically while speaking in a foreign language thus directly supporting current EFL research.

The research by Çakmak (2015) examined prospective science teachers using STH along with case studies for critical thinking evaluation. The CCTDI quantitative

results showed no statistical differences between groups while qualitative assessments indicated students perceived improvements in their critical thinking abilities.

Azeez (2016) used STH to enhance social worker creativity and innovation thus advocating for its use across professional fields to develop systematic cognitive and creative competencies.

The implementation of STH in information technology education by Kocakaya (2017) resulted in fifth-grade students outperforming their traditional counterparts thus demonstrating the wide-ranging academic benefits of structured cognitive methods.

Gülcü (2019) demonstrated through her research that seventh graders who learned through STH excelled academically and developed better critical thinking skills and decision-making abilities than students taught traditionally about recycling and domestic waste.

Akyüz (2017) demonstrated through his study that Turkish EFL classes employing the STH technique produced greater student involvement and created more inclusive learning environments thus confirming its effectiveness for promoting fair engagement and organized classroom dynamics.

Al-Khataybeh and Al-Tarawneh (2015) demonstrated how the STH technique enhances EFL students' writing performance by teaching them to organize their thoughts to create more organized and detailed written products through systematic viewpoint analysis.

The STH technique proved effective in teaching EFL learners to enhance their reading comprehension skills while developing their ability to analyze texts and identify author intentions and synthesize textual information according to Al-Salameen and Abdelrahman (2023). This study supports the research goals by demonstrating how organized cognitive strategies can help EFL students develop their critical reading abilities.

Karakaş (2021) found that students achieved better critical thinking and academic outcomes through the Six Thinking Hats method compared to traditional teaching. Although the study was not conducted in an EFL context, the findings

suggest that structured cognitive strategies like STH may also support EFL learners in developing critical analytical skills.

The research by Koray (2005) shows how science students demonstrated positive attitudes and increased creativity when using STH since they produced innovative solutions despite initial instructor doubts. The research provides evidence that learners experience both cognitive engagement and creativity benefits through structured cognitive approaches for EFL instruction.

2.7.2. Past Studies on Critical Reading

Multiple research studies from national and international domains investigate critical reading from diverse viewpoints to determine its effects on reading comprehension and academic achievement alongside its relationship to text genres and teaching methods and student personality traits. Multiple studies present distinct findings about the most effective strategies to develop critical reading skills throughout various educational settings.

Köse (2006) investigated the effects of filing technique application on university preparatory student autonomy while improving their critical reading abilities. Students developed both critical reading competencies and independence through the filing technique according to research findings that used interviews and documented analysis.

Ünal (2006) investigated both fifth graders' reading attitudes and their critical reading abilities alongside their comprehension performance. Research data showed positive reading attitudes strongly affected both critical reading abilities and comprehension results but found a moderate relationship between comprehension and critical reading. The study showed students failed to verify the accuracy of information nor did they pursue additional research after completing their readings.

The research of Orhan (2007) examined critical reading practices in citizenship and human rights education environments. Student responses indicated they could successfully use analysis and interpretation tools when teachers provided critical reading prompts. Female students demonstrated better performance than male students in analytical work according to the study.

Aşılıoğlu (2008) interviewed college teaching staff about their observations of student reading abilities and learning methods. The majority of students demonstrated a preference for memorization over critical thinking and advanced reading strategies according to the study results.

Küçükoğlu (2008) used a self-efficacy scale to evaluate English teacher candidates' confidence in their critical reading skills. The majority of candidates demonstrated positive attitudes together with strong confidence regarding their critical reading abilities.

Sadioğlu and Bilgin (2008) investigated the relationship between critical reading abilities and gender together with parental education among fifth-grade students. The research revealed gender acted as a meaningful factor because girls demonstrated superior critical reading skills but parental educational attainment showed no substantial impact on critical reading.

David conducted an experimental research (2009) to evaluate critical reading as an educational teaching approach. The experimental results demonstrated that students who received critical reading instruction achieved superior outcomes compared to the control group participants in both comprehension and academic achievement.

Bardakçı (2010) investigated if teaching students to recognize reasoning fallacies would lead to better critical reading abilities. The study confirmed that teaching fallacies to students resulted in better analytical reading performance.

Belet and Dal (2010) investigated how teacher candidates viewed using storytelling to teach critical reading. The participants found that using stories effectively promoted both increased learner engagement and critical thinking abilities for primary school students.

Işık (2010) examined the relationship between high school students' reading behaviors and their critical thinking inclinations and critical reading competencies. Critical thinking tendencies supported critical reading abilities yet reading frequency did not create a direct link to improved critical thinking.

Lewin (2010) implemented classroom activities that followed Bloom's Taxonomy to help students advance from basic to advanced questioning levels. His research showed that step-by-step questioning approaches enabled students to engage critically with texts and build their critical reading abilities over time.

Karasakaloğlu and Bulut (2012) studied how fictional texts compared to non-fictional texts impacted students' critical reading skills. Students who studied fiction achieved better results in post-tests compared to those who studied non-fiction which demonstrates how narrative texts enhance critical thinking skills.

Middle school students with learning difficulties participated in Kim et al. (2012) research which revealed that five essential factors improved reading comprehension: instructional methods, self-monitoring practices, different reading materials, clear instructional delivery and group membership sizes. The variables proved essential to help students develop critical engagement with their reading materials.

Gündüz (2015) investigated both reading practices and critical reading abilities of first-year university students. The study established substantial relationships between critical reading abilities and three variables: book ownership, periodical use and family-related factors which included parental education levels and household structures.

Tan (2023) reported that 10th-grade students showed poor perceptions regarding their English critical reading skills. The instructors linked the poor performance to insufficient educational resources and insufficient time devoted to instruction indicating the necessity for improved classroom environments to develop student skills.

Keyif (2021) studied how university students used metacognitive strategies to affect their critical reading abilities. The research showed no general correlation but found a meaningful relationship between metacognitive strategies and intertextuality in critical reading.

The study conducted by Aydın et al. (2020) with eighth graders for five weeks revealed that critical reading strategy instruction yielded better reading comprehension results than traditional teaching methods.

According to Silalahi (2018) students who finished reading courses failed to understand critical reading and interpretation techniques despite taking the course. The students failed to detect textual inconsistencies and they undervalued the academic worth of critical reading.

Through guided questioning, Tomasek (2009) taught university students how to have deeper classroom discussions. This method enabled students to move past basic comprehension and make connections between texts and their personal experiences, enhancing their critical reading skills.

Hollis (2021) discovered that fictional texts stimulate critical evaluations through their nuanced and indirect nature better than informational texts do. Informational texts provide clarity and factual grounding which serves as a positive factor.

The research conducted by Akar et al. (2016) demonstrated that fourth-grade students who performed well academically and read more books showed better critical reading abilities but screen time consumption negatively affected their skills. The study failed to identify family income as a substantial factor.

Aydın (2020) studied how the Six Thinking Hats method affected seventh-grade Turkish L1 students' critical reading abilities. The research showed that students who received structured reading activities based on the STH framework outperformed students who received traditional instruction in developing their critical reading abilities. This study maintains similarities with the present research regarding its focus on seventh-grade participants and experimental approach but delivers the intervention in English as a Foreign Language (EFL) instead of Turkish L1.

Research into critical reading skills encompasses various theoretical and empirical studies that examine different learning environments. Research conducted previously examined reading habits and comprehension and attitudes yet recent studies have expanded their focus to educational approaches and textual genres together with

learner characteristics including gender and instructional support and motivation. EFL research emphasizes the importance of purposeful teaching methods which combine questioning techniques with critical text analysis and multimedia learning tools to develop analytical capabilities and deep reading comprehension. The research findings indicate that instructional barriers such as resource shortages and testing pressure and student preference for basic reading persist. The research demonstrates the necessity for teaching methods that surpass memorization-based instruction by requiring students to actively read reflectively and critically with consideration for present-day learning requirements.

3. METHODOLOGY

3.1. Research Design

This study applied the quasi-experimental mixed-methods design to explore the impact of the Six Thinking Hats (STH) technique on the secondary school English as a foreign language (EFL) students' critical reading self-efficacy. Adopting Creswell and Plano Clark's (2017) taxonomy of the types of mixed-methods designs this research integrated an explanatory sequential design (Ivankova et al., 2006) with the quantitative phase followed by a qualitative one, whose purpose was to interpret or explain the quantitative data.

This design was chosen to address the intervention's measurable outcomes and the students' subjective experience. Explanatory sequential designs, according to Creswell and Plano Clark (2017), are particularly appropriate whenever researchers aim to "explain mechanisms behind the quantitative results" (p. 213) and have a deeper understanding of how or why something occurred. The integration of the results of the two phases was informed by guidelines promoted by Ivankova et al. (2006), who theorize that such designs enable the systematic link between statistical trends and contextualized participant experiences, thus enhancing broader interpretative validity embedded in mixed-methods research. Two-stage integration of data in line with Ivankova et al. (2006) systematically related statistical patterns to contextual participant narratives, enhancing interpretive depth and aesthetic mixed-methods research integrity. The combined approach improves knowledge of objective patterns as well as of subjectivist meaning construction in educational intervention.

The quantitative aspect of the study employed a two-group pre-test/post-test intact group design. The experimental group undertook critical reading tasks with the Six Thinking Hats method, and the control group undertook traditional print-based critical reading tasks. To measure students' perceived ability to perform critical reading-related cognitive tasks, both groups completed the Critical Reading Self-Efficacy Scale developed by Karadeniz (2014), administered as a pre-test and post-test.

After the quantitative phase, qualitative data were gathered with the purpose of investigating the experimental group's attitudes towards the STH approach. Focus

group interviews were arranged with specific subgroups of students who had taken part in the intervention. This phase was designed to provide additional information regarding the quantitative results by documenting learners' feedback on various aspects, including participation, difficulty, cooperation, and language use. With the addition of this qualitative component, the study sought to convey a more complex and sophisticated comprehension of the learning impacts associated with the Six Thinking Hats method.

The explanatory sequential design enabled the systematic integration of findings from both phases. The quantitative findings gave a summary view of the intervention's effectiveness, whereas the qualitative findings offered contextual explanations for the ensuing quantitative findings. As explained by Ivankova et al. (2006), the integration embedded in this design is crucial in interpreting how participants perceive and regard statistical trends in natural educational environments. For instance, if self-efficacy post-test gains were not demonstrated, students' reflections could shed light on whether this was due to linguistic challenges, unfamiliarity with the method, or other class-related issues.

3.2. Setting and Participants

7th-grade students aged mostly 13 at a public girls' religious secondary school in Esenler, Istanbul participated in the study. Two classes were utilized to form this study's experimental and control groups, with 25 students in each. One of the classes were assigned as the control group and the other one as the experimental group. All the students were females since the school was a girls' religious school.

The experimental group received instruction through the Six Thinking Hats method, whereas the control group was provided with the same reading material through traditional print-based critical reading questions. Both groups of learners had almost the same background in the English language and pursued the same national curriculum of English language learning at the secondary level.

The students participated on a voluntary basis, and the school administration and guardians of the students granted the required permissions based on ethical research norms.

Table 2. Demographic Characteristics of Participants

Demographic Variable	Control Group (, n = 25)	Experimental Group (n = 25)
Mean Age	13.2 years	13.1 years
Gender	100% Female	100% Female
Average Number of Siblings	Approximately 2.4	Approximately 2.3
Reading Frequency Outside School	30.4% read often or always	55% read often or always
Number of Books Read Monthly	69.6% read 1–2 books	52.4% read 1–2 books; 47.6% read 3–5 books
Enjoyment of Reading in Turkish	87% answered Yes	85.7% answered Yes
Enjoyment of Reading in English	8.7% Yes, 73.9% Sometimes	9.5% Yes, 47.6% Sometimes
Reading English Texts Outside Lessons	69.5% read occasionally or more	38.1% read occasionally or more
Reading via Digital Devices	34.8% answered Yes	52.4% answered Yes
Having a Book Corner at Home	95.7% answered Yes	85.7% answered Yes
Preferred Book Types (in Turkish)	Mainly novels (61%) and short stories (52%)	Mainly novels (86%) and short stories (33%)
Preferred English Reading Materials	Stories (74%), social media (52%), textbooks (44%)	Stories (52%), social media (48%), textbooks (43%)

Even though they were drawn from the same school environments and were taught using the same English national curriculum, some minor variation existed between the demographic characteristics of the control and experimental groups (Table 2). The two groups were similar in age (approximately 13 years old), gender (100% female), and interest in reading Turkish texts, with over 85% of the students in each group pointing out that they liked reading Turkish texts. However, the two groups varied regarding exposure to English and reading habits. More of the experimental group answered reading books outside school more often, with 55% of them indicating that they read often or always, while only 30.4% answered thus in the control group. Reading behavior using digital devices was also more common among the experimental group, 52.4% of whom indicated that they used digital devices when reading, while 34.8% did so in the control group.

While there was low English reading enjoyment in both groups, a higher percentage of the experimental group reported reading English texts "sometimes" or

"often" outside class. These small but notable differences are informative background data for interpreting the intervention results since they can be associated with learning motivation and availability of reading materials. Overall demographic similarity between the groups, nevertheless, provides a measure of support for the quasi-experimental comparison validity.

3.3. Intervention Design and Implementation

The intervention spanned four months through monthly single reading sessions which occurred for both experimental and control groups. The reading text from each monthly session was specifically selected to support both critical thinking and active student engagement.

The intervention used texts from official national coursebooks as well as content from various national publishers' coursebooks which followed Ministry of National Education curriculum standards. The selection process for each text relied on the established learning outcomes for the present unit according to the monthly instructional plan. The intervention content met educational standards and fulfilled curriculum requirements by using flexible text selection that emphasized thematic richness and Six Thinking Hats compatibility. The texts used in the intervention corresponded to the units *Wild Animals* (Month 1), *Television* (Month 2), *Celebrations* (Month 3), and *Dreams* (Month 4), as defined by the national curriculum. Therefore, each reading session was conducted when the respective theme was actively being covered in the curriculum, ensuring topical relevance and curricular coherence.

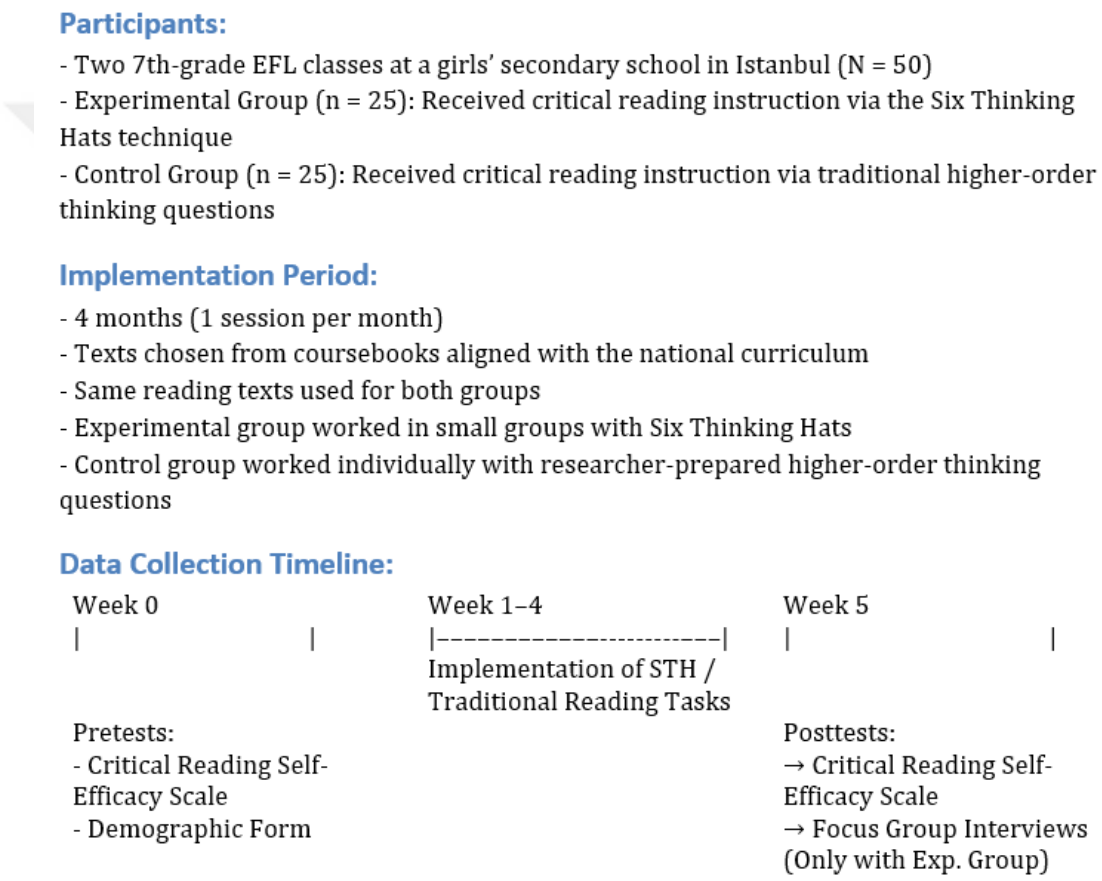
The experimental group received complete instruction about the Six Thinking Hats technique and its six hats before their first intervention session in their native language (L1). The students easily adapted to the framework because they already knew the concept from their Turkish and Social Studies classes. The teacher-researcher provided support during the four sessions to help students understand and properly use the technique whenever they needed assistance. Students in the experimental group received the Six Thinking Hats technique for the text presented by the researcher while working in small groups, containing three groups with six students each and one group with seven students, for a total of 25 students. The experimental group kept its group structure consistent for all four monthly sessions to promote both group unity and deep

collaborative processes. The six hats served as distinct thinking modes, which included white (factual), red (emotional), black (critical), yellow (optimistic), green (creative), and blue (metacognitive). The instructional framework led students to explore the text from different angles, which resulted in organized and varied comprehension. Students in each session selected their preferred thinking role from the Six Thinking Hats without teacher assignments, so they could participate voluntarily in the hats they felt most at ease with. After each session, the groups compiled their findings on paper before presenting them to the entire class, which enhanced student participation along with both communication and peer-to-peer contact.

Throughout the intervention, the teacher-researcher actively supported student thinking by modeling the Six Thinking Hats method in a practical and responsive manner. During each session, when students faced challenges in interpreting the text or hesitated in applying a particular hat, the teacher scaffolded their thought processes by asking targeted, hat-specific guiding questions. For instance, when using the black hat (critical thinking), students were prompted with questions like "What could be a weakness or problem in the text's argument?". While applying the green hat (creative thinking), the teacher asked, "Can you think of an alternative ending or solution in this situation?". These moment-to-moment interactions helped maintain student engagement, clarified each hat's purpose, and ensured accurate and thoughtful use of the framework. This modeling also demonstrated to students how to shift between different perspectives and approach the text from multiple cognitive angles, especially in moments of uncertainty. In doing so, the teacher did not provide direct answers, but instead encouraged deeper inquiry, helping students internalize the method gradually over time. This responsive scaffolding was essential in turning the abstract STH concepts into classroom routines that were accessible, functional, and transferable. The teacher-researcher also, supplied students with a thinking frame during each session to help them organize their thoughts according to the Six Thinking Hats framework. The written guide functioned as a tool for students to express their ideas under each hat throughout the entire intervention period (see Appendix 9). The STH reflection form used in the intervention was developed by the researcher and reviewed for pedagogical suitability by the thesis supervisor, who provided expert feedback during the design process.

Students in the control group studied the same reading materials while completing standard question-based critical reading assignments. The traditional EFL classroom activities included factual and inferential and evaluative questions. The researchers designed questions to match the requirements of critical reading subskills. The instruction method remained the sole different factor between the two groups while all classroom elements remained identical. The timeline of intervention and data collection appears in Figure 2 below.

Figure 2. Data Collection Timeline and Implementation Overview



3.4. Data Collection Instruments

3.4.1. Critical Reading Self-Efficacy Scale

Karadeniz's (2014) Self-Efficacy Scale of Critical Reading was used as the primary instrument to measure changes in students' critical reading self-efficacy. The scale includes items on a Likert-type scale and measures sub-dimensions such as

inquiry, drawing Inferences, analysis, evaluation and identifying similarities and differences.

The instrument's validity was previously confirmed through both exploratory and confirmatory factor analyses conducted on a large Turkish sample (N = 1360), yielding high internal consistency (α = .937) and test–retest reliability (r = .90). These indicators support the reliability of the instrument in measuring students' self-efficacy across different dimensions of critical reading.

The scale consists of 33 items designed to measure learners' perceptions of their critical reading self-efficacy. Each item is scored on a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Out of the 33 items, 8 are negatively worded and were reverse-coded prior to analysis to ensure that higher scores consistently reflect higher levels of self-efficacy.

The total possible score ranges from 33 to 165. While the original author (Karadeniz, 2014) does not specify score ranges for interpretation, the following categorization was adopted for clarity:

33–76: Low self-efficacy

77–121: Moderate self-efficacy

122–165: High self-efficacy

Since the original scale (Karadeniz, 2014) does not specify score bands, total scores (33–165) were divided into three equal-width categories (44-point intervals), following standard psychometric practice. This approach is recommended by Büyüköztürk (2008) for interpreting Likert-type instruments and is consistent with procedures described by Tezbaşaran (2008).

The decision to use a self-efficacy measure, rather than a performance-based assessment, is grounded in Bandura's (1997) framework, which views self-efficacy as a central determinant of individuals' motivation and behavior. In the context of language education, researchers such as Zimmerman (2000) and Schunk (2003) have emphasized that learners with strong self-efficacy are more likely to engage in

cognitively challenging tasks, persist through difficulties, and employ metacognitive strategies. Given that critical reading involves reflection, evaluation, and analytical judgment, self-efficacy becomes both a relevant affective factor and a predictor of students' long-term engagement with such tasks.

Several popular international critical thinking tests were excluded from this research because they presented both linguistic and contextual barriers. The study omitted the California Critical Thinking Skills Test (Facione & Facione, 1992), the California Critical Thinking Disposition Inventory (CCTDI), the Watson-Glaser Critical Thinking Appraisal (Watson & Glaser, 1980), and the Cornell Critical Thinking Test (Ennis & Millman, 1985) as assessment tools. These widely used academic instruments have received broad validation in English language educational environments yet fail to meet the needs of middle school EFL learners because of multiple factors. The tools were created for senior learners who need strong L1 or sophisticated L2 abilities for complex logical and argumentative reasoning. The CCTDI, for example, assesses critical thinking dispositions effectively, although its philosophical terminology exceeds the reading and cognitive skills of typical 7th-grade EFL students. Another reason is, the limited access to commercial licensing requirements for instruments such as the CCTST and WGCTA makes them unsuitable for classroom-based intervention research in public schools.

In light of these considerations, the Karadeniz (2014) scale emerged as the most contextually appropriate, linguistically accessible, and pedagogically aligned instrument for measuring Turkish 7th-grade students' critical reading self-efficacy within an EFL framework. The scale was administered as both a pre-test and a post-test to the experimental and control groups to assess changes in learners' self-efficacy regarding their ability to engage in critical reading tasks.

The reliability of the Critical Reading Self-Efficacy Scale was evaluated through Cronbach's Alpha coefficient calculations for the current study participants. The scale demonstrated high reliability through its overall internal consistency value of α =.90 as shown in Table 3. The subdimensions achieved acceptable reliability scores which ranged from α =.60 to α =.75 indicating that the instrument maintained a consistent internal structure across its components. According to Özdamar (2002), alpha values above.80 indicate high reliability, while values between. 60 and.80 are

considered acceptable. Kılıç (2016) established three categories for alpha values where ≥.90 represents excellent reliability and.70 to.89 indicates good reliability and.60 to.69 shows acceptable reliability. The internal consistency coefficient from the pre-test served as a representative measure of the scale's overall reliability throughout the entire study because the same participants took both the pre-test and post-test.

Table 3. Cronbach-alpha Coefficients for Reliability of the Scales

Scale/Sub-Dimension	Cronbach-alpha
Perceived Critical Reading Self-Efficacy	0,90
-Inquiry	0,75
-Drawing Inferences	0,64
-Analysis	0,62
-Evaluation	0,60
-Identifying Similarities and Differences	0,70

3.4.2. Focus Group Interviews

Four semi-structured focus group interviews were conducted with the experimental group following the final reading session to complement the quantitative data and provide deeper insights into students' perceptions of the intervention. Each focus group consisted of one of the student groups that participated collaboratively in the Six Thinking Hats (STH)-based reading activities.

The interviews were conducted for exploring students' experiences with the approach, their engagement and motivation, and perceived challenges or benefits of the STH framework. Some interview questions are given below:

- *What do you think about the reading activities done with the Six Thinking Hats technique?*

- *Which approach was more beneficial for you: working with this method or with the traditional comprehension questions from the coursebook?*

- *Which hat was the most useful for you, and why?*

All the interviews were conducted in Turkish to enable students to respond freely and without hesitation. The interviews were audio-recorded with the students' consent and then transcribed to enable thematic analysis, which enabled the researcher to identify recurring themes and perspectives that might help in interpreting the quantitative outcomes.

3.5. Data Collection Procedure

Both groups were administered pre-tests using the Critical Reading Self-Efficacy Scale before intervention. During the four-month implementation period, both groups went through four reading sessions using their respective instructional methods. The same instrument was given as a post-test after the fourth and final session to assess changes in self-efficacy.

The focus group interviews were conducted with each sub-group in the experimental group within a week of the post-tests. Interviews lasted approximately 5–6 minutes and were conducted in a quiet separate classroom environment during school time. The interviews were researcher-moderated and semi-structured to enable free discussion.

3.6. Data Analysis

3.6.1. Quantitative Analysis

The Statistical Package for the Social Sciences (SPSS) software version 27.0 was used to perform all data analysis. The data were first tested to check the distribution of data to ascertain the statistical test type to apply (parametric or non-parametric). The normal assumption was also checked using the Shapiro-Wilk test. In addition to this, skewness and kurtosis values were also examined and values in the range of ±1.0 were used to indicate a normal distribution as per the criteria established by Kline (2011).

For datasets that met the assumption of normality, the Independent Samples t-test was employed to compare the means of two independent groups. In contrast, the Paired Samples t-test was utilized to examine differences within the same group across two time points.

The significance level was set at 0.05 in all statistical analyses, and results with a $p<0.05$ were considered statistically significant.

3.6.2. Qualitative Analysis

The thematic analysis followed the Braun and Clarke (2006) six-phase framework. The initial phase involved multiple readings of transcripts to become familiar with the data while recording initial ideas. The second phase involved systematic code generation across the entire dataset to identify meaningful data features. The third phase involved grouping identified codes into potential themes which represented general patterns. The fourth phase involved reviewing and refining preliminary themes to verify both internal coherence and their relevance to the coded extracts and the entire dataset. The fifth phase required researchers to define and name each theme by selecting a concise term that captured its fundamental meaning. The sixth phase required the construction of a complete and logical story which included specific and illustrative data extracts. The qualitative findings were used to enhance the understanding of quantitative results by providing more information about participant responses to the intervention and by identifying variables that could have affected their development.

4. FINDINGS

4.1. Findings Of The Quantitative Data

Descriptive statistics for the pre-test and post-test scores of the 50 students who participated in the study, comprising the Control Group (students who engaged in critical reading using print materials) and the Experimental Group (students who engaged in critical reading through the Six Thinking Hats technique), are presented in Table 4.

Table 4. Descriptive Statistics of Pre-Test and Post-Test Scores of Critical Reading Self-Efficacy Perception Scale/Subdimension Scores by Groups

	Measurements	Pre test				Post test			
		Min	Max	$\overline{X}$	Ss	Min	Max	$\overline{X}$	Ss
Control Group	**Perceived Critical Reading Self-Efficacy**	103	152	128,92	14,29	111	160	132,28	12,71
	-Inquiry	30	47	38,32	5,19	33	46	38,96	3,74
	-Drawing Inferences	15	24	19,44	2,42	17	25	20,24	2,42
	-Analysis	22	33	27,20	3,08	21	35	28,56	3,65
	-Evaluation	19	29	23,52	2,80	18	30	24,12	3,14
	-Identifying Similarities and Differences	14	24	20,44	2,83	17	25	20,40	2,00
Experimental Group	**Perceived Critical Reading Self-Efficacy**	96	157	126,80	14,01	101	162	130,40	13,77
	-Inquiry	30	48	37,92	4,56	31	50	38,80	5,02
	-Drawing Inferences	12	25	18,60	3,20	13	24	19,16	2,98
	-Analysis	18	32	26,08	3,48	18	33	27,20	3,64
	-Evaluation	17	30	24,16	2,84	16	30	24,44	3,16
	-Identifying Similarities and Differences	14	25	20,04	3,08	16	25	20,80	2,84
Total	**Perceived Critical Reading Self-Efficacy**	96	157	127,86	14,05	101	162	131,34	13,15
	-Inquiry	30	48	38,12	4,84	31	50	38,88	4,38
	-Drawing Inferences	12	25	19,02	2,84	13	25	19,70	2,74
	-Analysis	18	33	26,64	3,30	18	35	27,88	3,67
	-Evaluation	17	30	23,84	2,81	16	30	24,28	3,12
	-Identifying Similarities and Differences	14	25	20,24	2,93	16	25	20,60	2,44

As presented in Table 4, the Pre-Test and Post-Test scores of students in both the Control and Experimental Groups on the Perceived Critical Reading Self-Efficacy Scale and its subdimensions are compared. In the Control Group, which engaged in

traditional critical reading activities using printed materials, the overall self-efficacy score increased slightly from 128.92 (SD = 14.29) in the Pre-Test to 132.28 (SD = 12.71) in the Post-Test, which shows a modest improvement in students' general perception of their critical reading self-efficacy. Subdimension scores also showed varying degrees of change. Notable but limited increases were observed in Inquiry (M = 38.32, SD = 5.19 → M = 38.96, SD = 3.74), Drawing Inferences (M = 19.44, SD = 2.42 → M = 20.24, SD = 2.42), and Analysis (M = 27.20, SD = 3.08 → M = 28.56, SD = 3.65), suggesting some development in students' mentioned critical thinking-related competencies. While the mean score for the Evaluation subdimension increased from 23.52 (SD = 2.80) to 24.12 (SD = 3.14), the Identifying Similarities and Differences subdimension remained virtually unchanged (M = 20.44, SD = 2.83 → M = 20.40, SD = 2.00), indicating no notable improvement in this particular skill area.

In the Experimental Group, which participated in critical reading activities through the Six Thinking Hats technique, the overall Perceived Critical Reading Self-Efficacy score increased from 126.80 (SD = 14.01) in the Pre-Test to 130.40 (SD = 13.77) in the Post-Test. Increases were noted across the subdimensions: Inquiry improved from 37.92 (SD = 4.56) to 38.80 (SD = 5.02); Drawing Inferences rose from 18.60 (SD = 3.20) to 19.16 (SD = 2.98); and Analysis increased from 26.08 (SD = 3.48) to 27.20 (SD = 3.64). The Evaluation subdimension showed a slight increase from 24.16 (SD = 2.84) to 24.44 (SD = 3.16). Notably, the Identifying Similarities and Differences subdimension exhibited a relatively more substantial improvement, rising from 20.04 (SD = 3.08) to 20.80 (SD = 2.84). This may suggest that the Six Thinking Hats technique contributed meaningfully to the development of students' ability to consider alternative perspectives.

Table 5. Findings Regarding the Compliance of Perceived Critical Reading Self-Efficacy Scale/Subdimension Scores with Normal Distribution

Measurements		Shapiro-Wilk			Skewness	Kurtosis
	Test	Test Stats.	sd	p		
Perceived Critical Reading Self-Efficacy	Pre-Test	0,982	50	0,640*	-0,059	-0,271
	Post-Test	0,989	50	0,916*	0,067	-0,078
-Inquiry	Pre-Test	0,971	50	0,252*	0,088	-0,736
	Post-Test	0,969	50	0,218*	0,169	-0,610

-Drawing Inferences	Pre-Test	0,972	50	0,286*	-0,331	0,018
	Post-Test	0,966	50	0,166*	-0,291	0,313
-Analysis	Pre-Test	0,979	50	0,500*	-0,290	-0,053
	Post-Test	0,978	50	0,487*	-0,418	0,179
-Evaluation	Pre-Test	0,980	50	0,558*	-0,247	-0,308
	Post-Test	0,972	50	0,281*	-0,468	-0,078
-Identifying Similarities and Differences	Pre-Test	0,950	50	0,033	-0,339	-0,404
	Post-Test	0,952	50	0,041	0,032	-0,648

**p>0,05*

As can be seen in Table 5, the compliance of the Pre-Test and Post-Test scores of the Perceived Critical Reading Self-Efficacy scale and its sub-dimensions to normal distribution was evaluated with the Shapiro-Wilk test. For the total scale scores, the Shapiro-Wilk value was 0.982 (p = 0.640) in the Pre-Test and 0.989 (p = 0.916) in the Post-Test. Similarly, in the Inquiry sub-dimension, Pre-Test was 0.971 (p = 0.252), Post-Test was 0.969 (p = 0.218); in the Drawing Inferences sub-dimension, Pre-Test was 0.972 (p = 0.286), Post-Test was 0.966 (p = 0.166); Pre-Test 0.979 (p = 0.500), Post-Test 0.978 (p = 0.487) in the Analysis subscale; and Pre-Test 0.980 (p = 0.558), Post-Test 0.972 (p = 0.281) in the Evaluation subscale. According to these results, since the p-values for all these measurements were above 0.05, the assumption of normal distribution was met.

However, in the Shapiro-Wilk test for the Identifying Similarities and Differences sub-dimension, values of 0.950 (p = 0.033) in the Pre-Test and 0.952 (p = 0.041) in the Post-Test were obtained, and since p<0.05 in both measurements, the normal distribution condition was not met. The values of skewness and kurtosis for this sub-dimension were skewness = -0.339 and kurtosis = -0.404 in the Pre-Test and skewness = 0.032 and kurtosis = -0.648 in the post-Test. According to Kline (2011), skewness and kurtosis values in the range of ±1 indicate that the distribution can be considered normal. Therefore, although the Shapiro-Wilk test for the Identifying Similarities and Differences sub-dimension showed p<0.05, since the skewness and kurtosis values remained within this range, it can be accepted that this dimension also shows a normal distribution.

Table 6. Independent Samples t-Test Results Regarding the Comparison of Pre-Test and Post-Test Scores of the Perceived Critical Reading Self-Efficacy Scale/Subdimensions by Groups

Test	Scale/Sub-Dimension	Group	$\overline{X}$ ±Ss	t	df	p	Cohen d
Pre-Test	**Perceived Critical Reading Self-Efficacy**	Control	128,92±14,3	0,530	48	0,599	0,150
		Experimental	126,8±14,01				
	-Inquiry	Control	38,32±5,2	0,289	48	0,774	0,082
		Experimental	37,92±4,57				
	-Drawing Inferences	Control	19,44±2,42	1,047	48	0,300	0,296
		Experimental	18,6±3,21				
	-Analysis	Control	27,2±3,09	1,206	48	0,234	0,341
		Experimental	26,08±3,48				
	-Evaluation	Control	23,52±2,81	-0,803	48	0,426	-0,227
		Experimental	24,16±2,84				
	- Identifying Similarities and Differences	Control	20,44±2,83	0,479	48	0,634	0,135
		Experimental	20,04±3,08				
Post-Test	**Perceived Critical Reading Self-Efficacy**	Control	132,28±12,72	0,50	48	0,618	0,142
		Experimental	130,4±13,78				
	-Inquiry	Control	38,96±3,74	0,13	48	0,899	0,036
		Experimental	38,8±5,03				
	-Drawing Inferences	Control	20,24±2,43	1,41	48	0,166	0,398
		Experimental	19,16±2,99				
	-Analysis	Control	28,56±3,66	1,32	48	0,194	0,373
		Experimental	27,2±3,65				
	-Evaluation	Control	24,12±3,15	-0,36	48	0,721	-0,102
		Experimental	24,44±3,17				
	- Identifying Similarities and Differences	Control	20,4±2	-0,58	48	0,568	-0,163
		Experimental	20,8±2,85				

*P<0,05 *Independent sample t-testi*

According to Table 6, when the Pre-Test measurements of the groups were analyzed, the mean Perceived Critical Reading Self-Efficacy score was 128.92 (SD = 14.30) in the Control Group class and 126.80 (SD = 14.01) in the Experimental Group class. Although the mean of the Control Group class was higher, this difference was not statistically significant ($t(48) = 0.530$; $p > 0.05$). Cohen's d = 0.150, indicating that this difference has a low-level effect.

Considering the sub-dimensions, the Inquiry score was 38.32 (SD = 5.20) in the Control Group and 37.92 (SD = 4.57) in the Experimental Group. This difference was not significant ($t(48) = 0.289$; $p > 0.05$) and the effect size was quite low with Cohen's d = 0.082. In the Drawing Inferences sub-dimension, the mean of the Control Group was 19.44 (SD = 2.42) and the mean of the Experimental Group was 18.60 (SD = 3.21); the difference was not statistically significant ($t(48) = 1.047$; $p > 0.05$) and the effect size was low with Cohen's d = 0.296. In the Analysis dimension, the mean of the Control Group was 27.20 (SD = 3.09) and the mean of the Experimental Group was 26.08 (SD = 3.48); the difference was not significant ($t(48) = 1.206$; $p > 0.05$), Cohen's d = 0.341, indicating a small effect. In the Evaluation dimension, the mean of the Control Group class was 23.52 (SD = 2.81) and the mean of the Experimental Group class was 24.16 (SD = 2.84); this difference was not significant ($t(48) = -0.803$; $p > 0.05$), Cohen's d = -0.227, indicating a low-level effect. In the Identifying Similarities and Differences sub-dimension, the mean of the Control Group was 20.44 (SD = 2.83) and the mean of the Experimental Group was 20.04 (SD = 3.08); the difference was not significant ($t(48) = 0.479$; $p > 0.05$), indicating a low-level effect with Cohen's d = 0.135.

When the post-test results are examined, the Perceived Critical Reading Self-Efficacy score was 132.28 (SD = 12.72) for the Control Group and 130.40 (SD = 13.78) for the Experimental Group. The difference between the groups was not statistically significant ($t(48) = 0.500$; $p > 0.05$), and the effect size was low (Cohen’s d = 0.142). In the Inquiry subdimension, the mean score was 38.96 (SD = 3.74) for the Control Group and 38.80 (SD = 5.03) for the Experimental Group. The difference was not statistically significant ($t(48) = 0.130$; $p > 0.05$), and the effect size was negligible (Cohen’s d = 0.036). In the Drawing Inferences subdimension, the Control Group had a mean score of 20.24 (SD = 2.43), while the Experimental Group had a mean of 19.16

(SD = 2.99); although the difference was not statistically significant (t(48) = 1.410; p > 0.05), the effect size was small to moderate (Cohen's d = 0.398). In the Analysis subdimension, the mean score was 28.56 (SD = 3.66) for the Control Group and 27.20 (SD = 3.65) for the Experimental Group; this difference was not statistically significant (t(48) = 1.320; p > 0.05), but the effect size indicated a small difference (Cohen's d = 0.373). For the Evaluation subdimension, the Control Group had a mean score of 24.12 (SD = 3.15), while the Experimental Group's mean was 24.44 (SD = 3.17); the difference was not significant (t(48) = -0.360; p > 0.05), with a very small effect size (Cohen's d = -0.102). Finally, in the Identifying Similarities and Differences subdimension, the Control Group scored 20.40 (SD = 2.00) and the Experimental Group 20.80 (SD = 2.85); the difference was not statistically significant (t(48) = -0.580; p > 0.05), though a small effect was observed (Cohen's d = -0.163).

No statistically significant differences were found between the Post-Test scores of the two groups in terms of Perceived Critical Reading Self-Efficacy and its subdimensions (p > 0.05). This finding suggests that both the critical reading practices implemented through printed materials (Control Group) and those conducted using the Six Thinking Hats technique (Experimental Group) had a similarly effective impact on students' Perceived Critical Reading Self-Efficacy.

Table 7. Paired Samples t-Test Results Regarding the Comparison of Pre-Test and Post-Test Scores of the Perceived Critical Reading Self-Efficacy Scale/Subdimensions by Groups

Group	Scale/ Sub-dimension	Test	$\bar{X}$ ±Ss	t	df	p	Cohen d
Control Group	Perceived Critical Reading Self-Efficacy	Pre-Test	128,92±14,29	-1,376	24	0,182	-0,275
		Post-Test	132,28±12,71				
	-Inquiry	Pre-Test	38,32±5,19	-0,749	24	0,461	-0,150
		Post-Test	38,96±3,74				
	-Drawing Inferences	Pre-Test	19,44±2,42	-1,600	24	0,123	-0,320
		Post-Test	20,24±2,42				
	-Analysis	Pre-Test	27,2±3,08	-1,971	24	0,060	-0,394

		Post-Test	28,56±3,65				
	-Evaluation	Pre-Test	23,52±2,8	-1,072	24	0,294	-0,211
		Post-Test	24,12±3,14				
	-Identifying Similarities and Differences	Pre-Test	20,44±2,83	0,078	24	0,938	0,016
		Post-Test	20,4±2,00				
Experimental Group	Perceived Critical Reading Self-Efficacy	Pre-Test	126,8±14,01	-1,996	24	0,057	-0,399
		Post-Test	130,4±13,77				
	-Inquiry	Pre-Test	37,92±4,56	-1,132	24	0,269	-0,226
		Post-Test	38,8±5,02				
	-Drawing Inferences	Pre-Test	18,6±3,2	-0,946	24	0,353	-0,189
		Post-Test	19,16±2,98				
	-Analysis	Pre-Test	26,08±3,48	-1,719	24	0,098	-0,344
		Post-Test	27,2±3,64				
	-Evaluation	Pre-Test	24,16±2,84	-0,468	24	0,644	-0,094
		Post-Test	24,44±3,16				
	-Identifying Similarities and Differences	Pre-Test	20,04±3,08	-1,593	24	0,124	-0,319
		Post-Test	20,8±2,84				

*P<0,05 *Paired Samples-T*

According to Table 7, in the Control Group, where the reading activities were carried out through traditional critical reading practices using printed materials, the mean Pre-Test score for Perceived Critical Reading Self-Efficacy was 128.92 (SD = 14.29), while the Post-Test mean was 132.28 (SD = 12.71). The result of the Paired Samples t-test indicated that this difference was not statistically significant (t = -1.376, p = .182). This finding suggests that although the intervention led to a slight increase in students' overall self-efficacy perception, the improvement was not statistically meaningful (Cohen's d = -0.275).

In the Inquiry subdimension, the mean Pre-Test score of the Control Group was 38.32 (SD = 5.19), while the Post-Test mean was 38.96 (SD = 3.74). According to the results of the Paired Samples t-test, this difference was not statistically significant (t = -0.749, p = .461). This indicates that students did not demonstrate a significant improvement in their Inquiry skills (Cohen's d = -0.150).

In the Drawing Inferences subdimension, the mean Pre-Test score was 19.44 (SD = 2.42), while the Post-Test mean was 20.24 (SD = 2.42). According to the results of the Paired Samples t-test, this difference was also not statistically significant (t = -1.600, p = .123). This indicates that the increase in students' inference-making skills was not statistically meaningful (Cohen's d = -0.320).

In the Analysis subdimension, the mean Pre-Test score was 27.20 (SD = 3.08), while the Post-Test mean was 28.56 (SD = 3.65). According to the results of the Paired Samples t-test, this difference was not statistically significant (t = -1.971, p = .060). However, with a Cohen's d value of -0.394, it can be considered to have a moderate effect size. This suggests that there was a limited improvement in students' ability to perform analysis, although the difference was not statistically significant.

In the Evaluation subdimension, the mean Pre-Test score was 23.52 (SD = 2.80), while the Post-Test mean was 24.12 (SD = 3.14). According to the results of the Paired Samples t-test, this difference was also not statistically significant (t = -1.072, p = .294). This result indicates that students did not experience a significant improvement in their Evaluation skills (Cohen's d = -0.211).

In the Identifying Similarities and Differences subdimension, the mean Pre-Test score was 20.44 (SD = 2.83), while the Post-Test mean was 20.40 (SD = 2.00). According to the results of the Paired Samples t-test, this difference was not statistically significant (t = 0.078, p = .938). This indicates that there was no meaningful change in students' ability to identify similarities and differences (Cohen's d = 0.016).

In the Experimental Group, the reading activities were carried out as critical reading through the Six Thinking Hats technique. The mean Pre-Test score for Perceived Critical Reading Self-Efficacy was 126.80 (SD = 14.01), while the Post-Test mean was 130.40 (SD = 13.77). According to the results of the Paired Samples t-test, this difference was not statistically significant (t = -1.996, p = .057). This result

suggests that the intervention led to a limited increase in students' overall self-efficacy perception; however, this increase was not statistically meaningful (Cohen's d = -0.399).

In the Inquiry subdimension, the mean Pre-Test score of the Experimental Group was 37.92 (SD = 4.56), while the Post-Test mean was 38.80 (SD = 5.02). According to the results of the Paired Samples t-test, this difference was not statistically significant (t = -1.132, p = .269). This indicates that students did not experience a significant improvement in their Inquiry skills (Cohen's d = -0.226).

In the Drawing Inferences subdimension, the mean Pre-Test score of the Experimental Group was 18.60 (SD = 3.20), while the Post-Test mean was 19.16 (SD = 2.98). According to the results of the Paired Samples t-test, this difference was not statistically significant (t = -0.946, p = .353). This indicates that the improvement in students' inference-making skills was not statistically meaningful (Cohen's d = -0.189).

In the Analysis subdimension, the mean Pre-Test score of the Experimental Group was 26.08 (SD = 3.48), while the Post-Test mean was 27.20 (SD = 3.64). According to the results of the Paired Samples t-test, this difference was not statistically significant (t = -1.719, p = .098). Although the Cohen's d value of -0.344 indicates a moderate effect size, the difference was not statistically meaningful.

In the Evaluation subdimension, the mean Pre-Test score of the Experimental Group was 24.16 (SD = 2.84), while the Post-Test mean was 24.44 (SD = 3.16). According to the results of the Paired Samples t-test, this difference was not statistically significant (t = -0.468, p = .644). This result indicates that there was no significant change in students' Evaluation skills (Cohen's d = -0.094).

In the Identifying Similarities and Differences subdimension, the mean Pre-Test score of the Experimental Group was 20.04 (SD = 3.08), while the Post-Test mean was 20.80 (SD = 2.84). According to the results of the Paired Samples t-test, this difference was not statistically significant (t = -1.593, p = .124). This indicates that there was no significant change in students' ability to identify similarities and differences (Cohen's d = -0.319).

4.2. Findings of the Qualitative Data

Focus group interviews were thematically analyzed using Braun and Clarke's (2006) six-phase approach. The aim was to explore students' perceptions of critical reading after participating in structured reading sessions based on the Six Thinking Hats (STH) technique. Following transcription and familiarization with the data, manual coding was carried out to identify recurring patterns, which were subsequently organized into broader thematic categories.

To better reflect the dual nature of the students' responses, the 57 coded units were grouped into two overarching categories: Affordances and Challenges. As shown in Table 8, the most frequently referenced challenge was Creative Thinking Challenges (22 references, 38.6%), indicating the cognitive demands students experienced while generating original ideas under the constraints of specific hats. Among the affordances, Novelty and Variety emerged strongly (16 references, 28.1%), suggesting that the technique's structured yet creative format positively influenced engagement. Students also highlighted the value of Group Work as Support (6 references, 10.5%), reflecting the social and cognitive benefits of collaboration. On the other hand, two notable challenges were Concerns About Frequency (12 references, 21.0%), where students recommended more spaced-out implementation, and English Expression Challenges (1 reference, 1.8%), pointing to occasional language-related difficulties.The distribution of the codes provides insight into the participants' experiences with the STH technique and highlights both the pedagogical potential and practical limitations of its use in EFL classrooms. In the discussion below, each of the themes will be discussed in more detail with quotes to accompany the student responses.

This categorization provides a clear representation of students' perceived benefits and difficulties, offering a nuanced understanding of the pedagogical and practical implications of using the STH technique in EFL settings.

Table 8. Thematic Coding Results from the Focus Group Interview

	Category	Code Label	Code	Frequency	Percentage
Affordances	Engagement & Enjoyment	Novelty and Variety	NV	16	%28.1
	Peer Collaboration	Group Work as Support	GW	6	%10.5
Challenges	Cognitive Load & Language Barriers	English Expression Challenges	EL	1	%1.8
	Sustainability & Practicality	Concerns About Frequency	FR	12	%21.0
	Cognitive Load & Language Barriers	Creative Thinking Challenges	CT	22	%38.6

4.2.1. Theme 1: Learner Engagement Through Novelty and Variety

The data revealed that the Six Thinking Hats (STH) technique significantly influenced students' engagement by offering a fresh, structured alternative to conventional reading activities. Students frequently contrasted the STH-based lessons with textbook-based routines, describing the former as "colorful," "different," and "more fun." The sense of novelty and variety emerged as a motivational factor, especially for students who had grown accustomed to passive comprehension tasks.

Participant 4 noted: *"It was fun because it was different from usual lessons. I liked thinking in new ways."* Similarly, Participant 5 commented: *"We are used to just answering questions from the book, but this was more colorful and interesting."*

These reflections illustrate the aesthetic and cognitive appeal of the STH structure. Participant 12 remarked: *"Each hat had a different way of thinking, so it didn't feel boring. We had to change our thinking style each time."* This comment underlines how the structured switching of cognitive modes kept learners attentive and mentally active.

In addition, the playful association with hat colors and roles appeared to sustain attention. Participant 20 described the sessions as *"exciting because we don't just*

read; we act like thinkers, each with a color." Participant 16 similarly shared: *"I liked it because every time we worked on a different hat, we had new discussions."*

However, the data also also show that pleasure was controlled by novelty. Some students confessed that when the same structure was repeated multiple times, its effectiveness started to seem diminished. For instance, Participant 7 admitted: *"At first, I liked it, but later it became tiring because we did it a lot."* This aligns with the broader trend observed in the data: STH increases engagement through change and color, but overuse may lead to fatigue, a dynamic that connects directly to the fifth theme (*Sustainability & Practicality*).

In sum, the technique's novel format, varied perspectives, and playful framing fostered higher engagement in many students, making learning feel less solid and more participatory.

Notably, this theme aligns with the second highest frequency in the coding results (16 references, 28.1%), suggesting that novelty served as a major affective factor. However, it is worth noting that while most students appreciated the difference, some suggested that the activity could become tiring if used too frequently. This aspect will be further discussed under the theme of Sustainability & Practicality.

4.2.2. Theme 2: Cognitive Load and Language Barriers in Task Execution

Among all themes, the one most frequently referenced by students (22 instances, 38.6%) was the cognitive and linguistic difficulty they faced while participating in the STH-based reading activities. While the tasks aimed to foster critical thinking, many students expressed that generating ideas and forming complete English sentences under specific hat roles presented a substantial cognitive load.

Participant 8 described this challenge directly: *"It was hard to think of a sentence depending on the hat. Sometimes we just didn't know what to say."*

Similarly, Participant 5 admitted: *"We had to think and then write in English, but sometimes our ideas were not clear even in Turkish."* This highlights a dual burden: first, formulating original thoughts, then translating those into a foreign language.

Linguistic barriers were particularly evident in responses from students who struggled with vocabulary or grammar. Participant 3 said: *"I was afraid of making mistakes in the sentence, like if it was wrong grammar,"* while Participant 13 added: *"Finding the words was hard. We wanted to say something but didn't know the English word."* This aligns with what Participant 11 explained: *"I think in Turkish first, then try to write in English, but it takes time and sometimes I just give up."*

Moreover, the structure of the Six Thinking Hats itself occasionally made the cognitive process feel restrictive. As Participant 6 reflected: *"The hat made us focus only on one side. So it was harder to find ideas, like only bad sides or only new ideas."* This shows that while the hats organize thinking, they can also narrow the scope in a way that increases difficulty for less fluent or less confident learners.

Yet despite these challenges, a few students reported gradual adaptation. Participant 18 shared: *"In the first session, writing in English was very hard. But by the last time, I didn't need to think in Turkish first."* This suggests that repeated exposure to the task may have had a positive impact on cognitive fluency, though not uniformly across all participants.

Overall, this theme underscores the mental and linguistic effort required from students when engaging in structured critical thinking activities in English. The STH technique prompted deeper processing but also surfaced limitations in language proficiency and idea generation, which are especially important in foreign language reading instruction.

4.2.3. Theme 3: Collaborative Learning as a Facilitator of Comprehension

The role of collaboration emerged as a meaningful aspect of students' experiences with the Six Thinking Hats technique. Although the technique focuses on individual thinking roles, students consistently highlighted the benefits of working in groups while engaging with the tasks. Many found that collaboration made the process more manageable, less stressful, and more productive, especially when facing language barriers or challenging texts.

Participant 9 stated: *"Doing it alone would be hard. In the group, we helped each other and corrected each other's mistakes."* This peer support dynamic was

echoed by Participant 12, who commented: *"Sometimes I didn't know what to write, but when I heard my friends' ideas, I got inspired."* These examples suggest that collaboration served both as an emotional buffer and a source of cognitive scaffolding.

In several instances, students described group discussions as a form of mutual learning. Participant 4 shared: *"We all had different ideas for each hat. That made it easier to understand the text because we talked about it together."* Similarly, Participant 14 remarked: *"We were not just saying our own ideas. We listened, we changed our minds, we added new things."* These responses demonstrate how interaction promoted negotiation of meaning and deeper engagement with the material, both key goals in EFL and critical reading pedagogy.

Beyond comprehension, group work also appeared to enhance students' sense of belonging and reduce anxiety. Participant 15 reflected: *"I usually feel nervous speaking in English, but with my group I felt safe."* Others, like Participant 10, noted: *"It was more fun with friends. If I didn't know a word, someone helped me."* This highlights the emotional and social benefits of group-based tasks, which may have indirectly contributed to more successful language use and critical thinking outcomes.

However, a few students acknowledged the risk of overreliance. Participant 17 said: *"Sometimes people just wait for others to talk. Not everyone shares equally."* While this was not a dominant concern, it points to the importance of structured roles or expectations within group work to ensure full participation.

In sum, collaborative learning served as a powerful facilitator in the application of the Six Thinking Hats technique. It provided students with cognitive support, encouraged dialogue and reflection, and reduced linguistic anxiety, all of which likely enhanced the overall effectiveness of the intervention.

4.2.4. Theme 4: Perceived Pedagogical Gains: Comprehension, Language Use, and Thinking Skills

A significant number of students expressed that the Six Thinking Hats technique not only made lessons more engaging but also contributed meaningfully to their learning outcomes. Although this theme did not register strongly in the quantitative coding due to the variability in phrasing, qualitative responses revealed

recurring perceptions of improvement in reading comprehension, critical thinking, and English language use.

Several students reported that the method helped them better understand texts by prompting them to re-read and analyze from multiple perspectives. Participant 6 explained: *"When we used the hats, I looked at the text more carefully. I tried to find new meanings for each hat."* Similarly, Participant 13 remarked: *"Reading it once was not enough. I had to read again to find what the green hat or black hat would say."* These comments highlight how the technique fostered rereading and deeper textual engagement, a cornerstone of critical reading.

From a language development perspective, students felt the tasks supported their English expression. Participant 9 shared: *"At first, I translated in my mind, but later I started thinking in English directly."* Participant 11 added: *"We used the same vocabulary many times, so I started to remember it without looking."* These responses suggest incidental vocabulary acquisition and growing confidence in sentence construction through repetition and task-based exposure.

The technique's emphasis on structured cognitive roles also appeared to sharpen students' thinking processes. Participant 5 noted: *"The hats made me think more clearly. For example, yellow hat made me find good sides that I didn't see before."* Participant 15 expressed a similar reflection: *"The green hat helped me imagine different endings or new solutions. I never did that in normal lessons."* These examples demonstrate the activation of higher-order thinking skills such as inference, evaluation, and creativity, which are directly aligned with the goals of critical reading.

Significantly, some students internalized these modes of thinking beyond the classroom context. Participant 17 shared: *"Now when I read something, I sometimes think 'what would the black hat say?' even if we're not using the hats."* This indicates that the method may have had a transfer effect on their independent reading habits and metacognitive awareness.

In summary, while not always explicitly verbalized in keywords, many students recognized and valued the pedagogical benefits of the Six Thinking Hats technique. It enhanced their comprehension through re-engagement with texts,

supported language development through meaningful use, and encouraged diverse modes of thinking, aligning closely with both foreign language and critical reading objectives.

4.2.5. Theme 5: Sustainability Concerns and the Need for Balanced Implementation

While the majority of students responded positively to the Six Thinking Hats (STH) activities, a recurring concern was the frequency of its use. Several participants suggested that although the technique was enjoyable and beneficial, excessive repetition led to cognitive fatigue and reduced motivation. This theme, which appeared in 12 coded instances (21.0%), underscores the importance of balanced and intentional use of the technique in the classroom.

Participant 7 from Group 2 expressed this directly: *"I liked it at the beginning, but then it started to feel boring because we did it a lot."* Similarly, Participant 5 from Group 3 commented: *"It's good, but not every time. Maybe once in two months or once in a while."* These reflections suggest that the novelty and engagement provided by the STH structure may diminish if it becomes overused, thus shifting from an engaging innovation to a burdensome routine.

Other students echoed the need for variety and pacing. Participant 1 noted: *"After doing all the hats, I got tired. It was too much thinking sometimes."* Another participant remarked: *"We can do this once or twice a year, not more."* This indicates that students appreciated the technique in moderation but desired alternation with other learning approaches.

Importantly, students did not reject the method entirely, rather they emphasized the importance of spacing and novelty. Participant 3 from Group 4 summarized this sentiment well: *"I would like to do it sometimes, not always. It was fun but should not be every week."*

These perspectives highlight an essential pedagogical consideration: even effective strategies can lose impact if overapplied. Students' suggestions reflect a metacognitive awareness of their own engagement levels and provide practical guidance for teachers aiming to sustain motivation over time.

In sum, the findings suggest that the Six Thinking Hats technique is best implemented intermittently rather than routinely. A balanced integration, perhaps once per unit or during project work, may preserve its effectiveness and ensure that students continue to perceive it as a meaningful and enjoyable approach to reading and thinking critically in English.

5. DISCUSSION

This chapter explains the research findings through the lens of research questions, theoretical framework, and relevant literature. The chapter combines quantitative and qualitative data to explain how the Six Thinking Hats (STH) technique affected students' critical reading self-efficacy in an EFL setting. The discussion follows the three main research questions before analyzing scale subdimensions and uniting qualitative themes.

5.1. Discussion of Research Questions

Research Question 1

How does the use of the Six Thinking Hats technique influence students' approach to multidimensional thinking and deep textual engagement in EFL reading?

To answer this research question, the study evaluated students' critical reading self-efficacy development through their overall score changes with special attention to experimental group results compared to control group results. The total self-efficacy score of the experimental group increased from a pre-test mean of 126.80 to a post-test mean of 130.40, while the control group also showed an increase from 128.92 to 132.28.. The self-efficacy scores of both groups showed minimal growth but the changes were not statistically significant.

This finding indicates that the use of the Six Thinking Hats (STH) technique did not result in substantially higher perceived development of critical reading skills compared to traditional instruction. However, the positive direction of change in both groups indicates that brief exposure to organized critical reading activities, whether through the STH technique or traditional higher-order questions, leads to small increases in self-efficacy. The results indicate that teaching multidimensional thinking through STH requires either more extensive or prolonged implementation to produce noticeable effects.

The qualitative data supports the educational benefits of the STH method although statistical analysis did not show significant results. Students in the experimental group frequently described how the structured roles of the hats encouraged them to *"think in new ways"* and "*look at the text from different sides*."

The students' reflections support the theoretical basis of the method (de Bono, 1985) and Vygotsky's (1978) theory of scaffolded development which suggests that the STH approach activates multidimensional cognitive processes although these are not immediately visible in self-efficacy scores.

Research Question 2

How does using higher-order thinking questions in reading materials from coursebooks impact students' critical reading skills compared to using traditional comprehension-level questions?

The research question investigates whether reading tasks with higher-order thinking elements through STH or traditional printed questions help students develop critical reading abilities. The parallel increase in total self-efficacy scores between groups (experimental: +3.6 points; control: +3.36 points) indicates that both groups benefited equally from the exposure to questions that went beyond basic comprehension.

Students in both instructional approaches received evaluative and reflective and inferential questions instead of basic comprehension questions. The fact that both groups showed improvement indicates that the evaluative and reflective and inferential questions were effective regardless of the teaching method. According to Paul and Elder (2008) critical reading demands students to practice questioning assumptions and evidence analysis and reasoning beyond explicit statements which both groups received to some extent.

The study reveals an important implication that method alone is insufficient unless it is accompanied by frequency, continuity and explicit scaffolding. Structured questioning strategies, when consistently applied, have been shown to support critical engagement (Wallace, 2003; Spears, 1999), yet this study's four-session implementation period may not have allowed either group to fully internalize or demonstrate such gains.

This suggests that content and instructional design play a role, but the frequency and consistency of critical questioning practice might be as important or more important for developing critical reading skills in young EFL learners.

Research Question 3

Do students engaging with critical reading through the Six Thinking Hats technique demonstrate a greater improvement in critical reading skills compared to students guided only by traditional print-based critical reading questions, despite working with identical texts?

The third research question directly compares the effectiveness of the instructional method, controlling for content. The experimental group used the STH technique collaboratively to study identical texts while the control group answered teacher-prepared printed higher-order questions targeting critical reading subskills.

The overall outcome, a slightly lower gain in total self-efficacy in the experimental group (+3.60 points) than the control group (+3.36 points), indicates that, in this case, the STH technique did not lead to a statistically or practically superior outcome in terms of self-perceived critical reading growth.

However, this result should not be interpreted as evidence of ineffectiveness. First, students in the experimental group frequently reported increased engagement and motivation during the sessions. Several students described the activities as "more fun," "interactive," and "easier to understand because of the hats." These affective gains, while not measurable via the self-efficacy scale, may serve as preconditions for future improvement in performance-based tasks or long-term gains in self-efficacy.

Secondly, the modest improvement in both groups suggests that instructional design using critical reading tasks, whether print-based or framed through STH, holds promise. But, the results also highlight the necessity for more frequent application, greater instructional continuity, and teacher familiarity with the method for it to reach its full potential. As Ellis (2003) notes, techniques that increase cognitive engagement are effective only when implemented with sustained intensity and contextual alignment.

In this sense, the STH technique may be seen not as an alternative to traditional methods, but as a complementary framework that, when deeply integrated into classroom culture and routines, can support the development of critical reading and metacognitive awareness (Flavell, 1979; Akyüz, 2017).

5.2. Subdimension-Based Analysis of Critical Reading Self-Efficacy

a. Analysis

Students who participate in the Analysis subdimension show their capacity to analyze textual elements while recognizing how different ideas connect and studying both structural components and logical patterns. Students in both experimental and control groups showed moderate improvement in this subskill because experimental students moved from 26.08 to 27.20 while control students advanced from 27.20 to 28.56. The control group achieved higher scores at both baseline and post-test periods which indicates that STH and traditional questioning methods successfully motivated students to perform analytical reading tasks.

The lack of significant differences between groups might result from both instructional approaches activating analytical thinking in students. Wilson (2016) supports this finding by showing that students can develop critical text analysis skills through intentional active analysis practices in any format. The STH method added structured engagement to the learning process because students analyzed the text through multiple cognitive lenses such as Black Hat for critique and Yellow Hat for strengths which supported deeper content analysis.

Some students in the experimental group noted in focus group interviews that using the hats “helped us break the text into pieces” or “made it easier to understand what’s important.” Although the improvement in *Analysis* was not significantly higher than that of the control group, these qualitative insights suggest that the STH method may have been particularly effective for students who need explicit scaffolding to approach texts analytically.

b. Identifying Similarities and Differences

The experimental group demonstrated the largest relative improvement in this subdimension because their scores rose from 20.04 to 20.80 while the control group maintained a constant score of 20.44 to 20.40. The STH technique demonstrated a minimal yet significant effect on students' ability to identify textual patterns through comparison and contrast.

The Black Hat and Yellow Hat hats specifically help students develop this skill by teaching them to identify weaknesses and benefits in texts. The use of these hats during group work enables students to develop perspective-switching abilities and relational thinking which are essential for identifying similarities and differences.

The original theory of de Bono (1985) supports this interpretation because the STH method enables learners to structure their thinking across multiple modes which leads to natural comparisons. The structured prompts according to Vygotsky's (1978) ZPD theory enabled learners to surpass their individual abilities when comparing textual features.

c. Inquiry

The Inquiry subdimension evaluates students' capacity to question assumptions while seeking deeper understanding and exploring ambiguous text elements. The experimental group showed a minor improvement from 37.92 to 38.80 while the control group demonstrated a similar increase from 38.32 to 38.96. The similar improvement rates indicate both teaching methods provided equal attention to inquiry development.

The short duration of the intervention period likely made it challenging to develop independent questioning abilities among students. The STH technique supports inquiry through its Blue (process control) and Red (emotional insight) hats yet its complete potential might not have been achieved because of limited exposure.

Interestingly, during focus group interviews, some students in the experimental group admitted they “found it hard to ask deep questions” but also said “the hats helped me know what to ask.” This may indicate that the technique encouraged a mindset of inquiry, even if it did not significantly shift self-perceived skill levels during the timeframe of this study.

d. Evaluation

Evaluation refers to students’ ability to assess the quality, validity, and relevance of textual information. The experimental group showed a small improvement from 24.16 to 24.44 while the control group demonstrated a rise from 23.52 to 24.12. The minimal progress made by students in both groups indicates their

struggle with evaluative judgment which Facione (1990) identifies as the most demanding critical reading skill.

Given that both groups worked with evaluative prompts, through either structured hats or written questions, this result might reflect a developmental limitation rather than an instructional one. According to Spears (1999) evaluation demands students to use standards of logic and credibility and purpose for content critique which typically needs extensive modeling and continuous practice.

The hats most directly linked to evaluation (especially Black Hat) may not have been sufficiently emphasized, or students may not yet have internalized their function. This suggests that more explicit training on evaluative reasoning, combined with metacognitive reflection, could help in future implementations.

e. Drawing Inferences

The Drawing Inferences subdimension assesses students' capacity to extract deeper meaning from context beyond basic literal understanding. The experimental group increased its score from 18.60 to 19.16 while the control group increased its score from 19.44 to 20.24. The slightly greater gain in the control group may again reflect the benefits of direct questioning and teacher-led inference prompts.

In contrast, the STH method provides extensive cognitive flexibility yet lacks sufficient direct instruction about drawing logical conclusions. The hats Green and Red promote exploration but they need specific guidance to help students develop inferential skills.

Students in the experimental group reported that group work made it easier to guess what happened next and think about hidden meanings which suggests potential benefits of collaborative inference development. Yet, without dedicated emphasis, inference skills may not fully develop in the STH framework unless tasks are directly aligned with this objective.

Integration of Qualitative Themes

The Six Thinking Hats technique received additional analysis through focus group interviews with experimental group members to enhance the quantitative results and better understand student experiences. The thematic analysis of these interviews using Braun and Clarke's (2006) six-phase framework identified four main themes which included engagement, collaboration, language challenges and perceived utility of the technique.

Engagement and Motivation

A recurring theme was that the STH-based activities were perceived as more enjoyable and engaging than traditional reading tasks. Students described the sessions as “fun,” “different from usual lessons,” and even “like a game.” This enhanced engagement, while not directly measurable in the self-efficacy scale, is a significant motivational factor that can lay the groundwork for long-term development in critical reading. Ellis (2003) notes that cognitive engagement is a precursor to deep learning in task-based language instruction, and the student reflections in this study echo this principle.

Collaboration and Perspective-Taking

The STH activities revealed that students highly valued working together as a group. Students mentioned that listening to their peers' interpretations through different perspectives allowed them to understand multiple aspects of the story which they had not considered before. The collaborative approach of the STH framework supports the development of perspective-taking and cognitive flexibility which are vital skills for multidimensional critical reading. Akyüz (2017) demonstrates that EFL classroom group activities with structure enable students to develop both language production skills and higher-order thinking abilities through collaborative reasoning.

Language-Related Challenges

Despite the positive feedback, some students admitted struggling with expressing their ideas in English, particularly when using hats like Green (creative ideas) and Blue (summary and reflection). This suggests that while the ramework

promotes deep thinking yet its cognitive requirements surpass what some students can handle with their current English language abilities. Kruse (2010) supports this finding by stating that L2 students need time to internalize structured thinking routines while also requiring language assistance for maximum effectiveness.

Perceived Utility of the Hats

Students at various levels showed initial understanding of the hats' functions. The comments “Black Hat helped me criticize,” “Red Hat helped me share feelings,” and “Blue Hat helped us sum it all up” show that students were starting to link cognitive functions with each role. The method showed evidence of structured mental engagement despite students having only limited experience with it. The observations demonstrate de Bono's (1985) fundamental goal of separating thinking modes while developing mental discipline and indicate students learned the method's underlying principles.

In summary, the quantitative data showed limited and statistically insignificant growth in students' self-assessment of their critical reading abilities, but the qualitative results presented a more positive outlook. Students’ reflections demonstrated increased motivation, collaborative reasoning, awareness of thinking strategies, and a willingness to explore texts more deeply, all suggesting that the Six Thinking Hats technique holds pedagogical promise in EFL critical reading instruction.

The findings collectively suggest that the short duration and limited frequency of the intervention restricted its measurable effects. However, the technique demonstrates strong potential for developing critical reading because it provides structured cognitive roles and supports perspective-shifting while maintaining high engagement value. When implemented consistently and paired with language support and teacher guidance, STH has the potential to both enhance learners’ confidence and deepen their analytical engagement with texts.

6. CONCLUSION

This study explored the potential of the Six Thinking Hats (STH) technique as a structured cognitive strategy for enhancing the critical reading self-efficacy of EFL learners in a secondary school context. Employing a quasi-experimental mixed-methods design, it compared the effects of STH-based instruction with traditional print-based critical reading activities using identical texts. Quantitative results revealed modest, statistically nonsignificant improvements in both the experimental and control groups. However, the directionality of gains, particularly in the subdimension of Identifying Similarities and Differences, and student feedback from focus group interviews indicate that the STH technique promoted multidimensional thinking, engagement, and perspective-taking in critical reading tasks.

The research outcomes support earlier findings which demonstrate that systematic thinking methods enhance learning environments for language acquisition. For instance, Karakaş (2021) found that EFL students taught through the Six Thinking Hats framework demonstrated notable improvements in both critical thinking and academic performance, while Al-Salameen and Abdelrahman (2023) highlighted the technique's effectiveness in fostering textual analysis and authorial awareness in EFL contexts. These results also partially reflects Aydın's (2020) work in a Turkish L1 setting, which reported statistically significant gains in critical reading ability following an STH-based intervention, suggesting that context, language proficiency, and intervention intensity may influence outcomes.

The STH method received positive feedback from students about its ability to enhance their cognitive engagement and affective response even though the study failed to produce statistical significance. Students stated that the hats provided them with different mental perspectives which helped them develop better questions and work together better. These insights reinforce the conclusion that while measurable self-efficacy gains may require longer or more frequent exposure, the Six Thinking Hats technique remains a promising pedagogical tool for fostering critical reading dispositions and skills in EFL classrooms.

The evaluation of the STH method's effectiveness requires researchers to implement longer intervention durations with diverse participant groups while incorporating performance-based assessment data in future investigations. However,

due to the structured nature of the national curriculum and lesson planning obligations within the Turkish Ministry of National Education (MoNE) framework, it was not feasible to allocate extended instructional time for experimental techniques over a longer period. As a public school teacher working within these constraints, the intervention was designed to fit realistically within the curriculum pacing and school calendar. Nevertheless, the current study contributes valuable insight into how structured cognitive tools can enrich the practice of critical reading, especially in linguistically and cognitively demanding foreign language learning environments.

6.1. Limitations and Further Suggestions

The study provides important insights about Six Thinking Hats application for EFL learner critical reading development but readers should understand the research limitations to interpret the findings properly.

The intervention duration was restricted to four sessions which spanned four months. The brief duration of the intervention might not have been enough to create measurable changes in students' critical reading self-efficacy since critical thinking and metacognitive development needs extended practice throughout time.

The study employed a small participant group of 50 students from a single-gender public girls' religious secondary school in Istanbul. The focused nature of this study limits the ability to generalize its findings to different student populations that include coeducational schools and rural institutions with unique cultural elements and teaching settings.

The self-efficacy scale used in the quantitative phase assesses perceived competence but not actual performance despite its reliability and suitability for the age group. The inclusion of performance-based assessments including critical reading rubrics or analytical writing tasks in future studies would enhance the measurement of both learners' demonstrated skills and their perceptions.

The study only conducted qualitative interviews with participants from the experimental group which omitted important comparative insights from the control group. Including perspectives from both groups could help further elucidate why students respond differently to various instructional approaches.

REFERENCES

Abadi, A. (2020). Application of Six Thinking Hats to improve students' reflective thinking. *Journal of Educational Practice, 11*(2), 45–53.

Adler, M. J. (1992). *The Paideia program: An educational syllabus*. Macmillan.

Aithal, A., & Kumar, N. (2017). Six Thinking Hats model for effective decision making: A classroom implementation. *International Journal of Management, IT and Engineering, 7*(6), 98–108.

Akar, C., Başaran, M., & Kara, M. (2016). Examining 4th grade primary school students' critical reading skills in terms of various variables. *Turkish Studies, 11*(3), 1–14. https://doi.org/10.7827/TurkishStudies.9306

Akyüz, M. (2017). *Altı şapkalı düşünme tekniğinin İngilizce derslerinde eleştirel düşünme becerisine etkisi* [Unpublished master's thesis]. YÖK Tez Merkezi.

Al-Khataybeh, M., & Al-Tarawneh, N. S. (2015). The effect of using the Six Thinking Hats method on EFL students' writing skill. *International Education Studies, 8*(2), 610–618.

Al-Salameen, A., & Abdelrahman, M. S. B. (2023). The effect of using the Six Thinking Hats method on EFL students' reading comprehension. *Journal of Language and Linguistic Studies, 19*(1), 71–79.

Al-Salameen, A., & Bani Abdelrahman, M. S. (2023). The effect of using the Six Thinking Hats method on the development of EFL female eleventh-grade students' reading comprehension skills in Petra Directorate of Education. *Journal of Education and Practice, 14*(12), 26–37. https://doi.org/10.7176/JEP/14-12-03

Altunkulaç, A., & Akhan, N. (2010). The effect of using creative drama and the Six Thinking Hats technique in the 8th grade Turkish Revolution and Kemalism course on students' success and attitudes. *Journal of Ahi Evran University Faculty of Education, 11*, 225–247.

Alvermann, D. (1991). The Discussion Web: A graphic aid for learning across the curriculum. The Reading Teacher, 45(2), 92-99.

Aşılıoğlu, B. (2008). The importance of critical reading for cognitive learning and ways to improve it. *Ziya Gökalp Faculty of Education Journal, Dicle University, 10*, 1–11.

Aydın, B. (2020). *The effect of the Six Thinking Hats technique on developing the critical reading skills of seventh-grade middle school students* [Doctoral dissertation, Muğla Sıtkı Koçman University]. Council of Higher Education Thesis Center. https://tez.yok.gov.tr/UlusalTezMerkezi/tezDetay.jsp?id=TIfNmVIdCdIKZ1Rt1TCv-g&no=E4S6jGuv1NeEDsKJBGvNVQ

Aydın, E., Erol, S., & Kaya, M. (2020). The effect of the critical reading method on reading comprehension. *Çukurova Research Journal, 6*(1), 141–150. https://doi.org/10.29228/cukar.43374

Azeez, R. O. (2016). Six Thinking Hats and social workers' innovative competence: An experimental study. *Journal of Education and Practice, 7*(24), 149–153.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman.

Bardakçı, M. (2010). *The effect of raising awareness about logical fallacies on the development of critical reading* [Unpublished doctoral dissertation]. Gazi University, Institute of Educational Sciences.

Barton-Arwood, S. M., Wehby, J. H., & Falk, K. B. (2005). Reading instruction for elementary-age students with emotional and behavioral disorders: Academic and behavioral outcomes. *Exceptional Children, 72*(1), 7–27.

Beaumont, J. (2010), A Sequence of Critical Thinking Tasks. TESOL Journal, 1: 427-448. https://doi.org/10.5054/tj.2010.234763

Belet, Ş. D., & Dal, S. (2010). The use of storytelling to develop primary school students' critical reading skills: Opinions of pre-service primary teachers. *Procedia - Social and Behavioral Sciences, 9*, 1830–1834. https://doi.org/10.1016/j.sbspro.2010.12.410

Belfer, K. (2001, June). *De Bono's Six Thinking Hats technique: A metaphorical model of communication in computer-mediated classrooms* [Conference presentation]. World Conference on Educational Multimedia, Hypermedia and Telecommunications, 113–116.

Bezir, Ç., & Baran, B. (2014). The contribution of the Six Thinking Hats technique in Second Life environments to the language teaching process. *Education and Science, 39*(171), 269–281. https://doi.org/10.15390/EB.2014.3287

Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *Taxonomy of Educational Objectives: The Classification of Educational Goals, Handbook I: Cognitive Domain*. New York: David McKay Company.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Brown, A. L., Palincsar, A. S., & Armbruster, B. B. (1984). Instructing comprehension-fostering activities in interactive learning situations. In H. Mandl, N. L. Stein, & T. Trabasso (Eds.), Learning and comprehension of text (pp. 255–286). Hillsdale, NJ: Lawrence Erlbaum Associates.

Büyüköztürk, Ş. (2008). *Manual of data analysis for social sciences* (11th ed.). Pegem A Publishing.

Byram, M. (1997). Teaching and assessing intercultural communicative competence. Multilingual Matters.

Çakmak, N. (2015). *The effect of case study and Six Thinking Hats activities on critical thinking skills of pre-service science teachers* [Master's thesis, Giresun University]. Giresun University Institute of Science.

Carl, W. J. (1996, April). *Six Thinking Hats, argumentativeness, and response to thinking model* [Conference presentation]. Annual Meeting of the Southern States Communication Association, Memphis, TN, United States.

Collins, A. (1993). *The role of reasoning and critical thinking in learning*. Educational Leadership, 50(1), 56-59.

Correia, R. (2006). Encouraging Critical Reading in the EFL Classroom.

Coşkun, D. (2024). *The effect of metacognitive reading strategies training on EFL students' critical reading skills: A quasi-experimental study* [Master's thesis, Marmara University]. YÖK Tez Merkezi.

Creswell, J. W., & Plano Clark, V. L. (2017). Designing and Conducting Mixed Methods Research. Sage.

Darch, C., & Kammenui, E. J. (1987). *Critical thinking in the classroom*. Educational Leadership, 44(1), 52-58.

David, F. D. (2009). Critical reading: An evaluation of a teaching approach. In *Proceedings of The 39th International Conference on Frontiers in Education*. http://portal.acm.org/citation.cfm?id=1733818

Davis, Z. T., & McPherson, M. D. (1989). Story map instruction: A road map for reading comprehension. The Reading Teacher, 43(3), 232–240.

de Bono, E. (1985). *Six Thinking Hats*. Little, Brown and Company.

de Bono, E. (1999). *Six Thinking Hats* (2nd ed.). Back Bay Books.

DeVoogd, G. (2008). *Critical literacy in the classroom*. Pearson.

Dewey, J. (1933). How we think: A restatement of the relation of reflective thinking to the educative process. D. C. Heath and Company.

Duncan, J. (n.d.). *Differences between reading and critical reading*. University of Toronto Libraries. https://guides.library.utoronto.ca/c.php?g=742896&p=5368731

Elder, L., & Paul, R. (2013). *Critical thinking: Tools for taking charge of your professional and personal life* (2nd ed.). Pearson.

Ellis, R. (2003). Task-based language teaching: Sorting out the misunderstandings. TESOL Quarterly, 37(4), 579–606.

Ennis, R. H. (1989). Critical thinking and subject specificity: clarification and needed research. *Educational Researcher*, *18*(3), 4–10. https://doi.org/10.2307/1174885https://www.jstor.org/stable/1174885

Ennis, R. H. (1991). Critical thinking: A streamlined conception. *Teaching Philosophy, 14*(1), 5–25.

Ennis, R. H., & Millman, J. (2005). *The critical thinking community*. University of California Press.

Enright, M. K., & Quinlan, T. (2010). Complementing human judgment of essays written by English language learners with e-rater® scoring. *Language Testing*, *27*(3), 317-334.

Facione, P. A. (1990). Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction. Research findings and recommendations [microform]. Distributed by ERIC Clearinghouse.

Facione, P. A. (1990). *Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction* (The Delphi Report). American Philosophical Association.

Facione, P. A. (2007). *Critical thinking: What it is and why it counts*. Insight Assessment.

Facione, P. A., & Facione, N. C. (1992). *The California Critical Thinking Disposition Inventory (CCTDI) and CCTDI test manual*. Millbrae, CA: California Academic Press.

Facione, P. A., Giancarlo, C. A. F., Facione, N. C., & Gainen, J. (1995). The disposition toward critical thinking: Its character, measurement, and relationship to critical thinking skill. *Informal Logic, 15*(1), 33–50.

Fitriani, A. (2019). The correlation between critical thinking and reading comprehension of EFL learners. *Jurnal Ilmiah Edu Research, 8*(1), 29–37.

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

Flemming, D. (2011). *The role of critical thinking in education*. Journal of Educational Research, 104(3), 204-218.

Flemming, L. E. (2011). *Reading for Thinking.* (seventh edition). Boston: Houghton Mifflin Company.

Freire, P., & Macedo, D. (1987). *Literacy: Reading the word and the world*. Bergin & Garvey.

Gao, Y. (2019). Analytical reading mode and students' thinking skills. *Reading Psychology, 40*(6), 546–554.

Gelen, İ., Dolapçıoğlu, S., & Keskin, A. (2008). The effect of the Six Thinking Hats technique on reading comprehension in Turkish language classes. *Milli Eğitim, 179*, 39–50.

Glaser, E. M. (1941). *An experiment in the development of critical thinking*. Teachers College, Columbia University.

Grabe, W. (2009). *Reading in a second language: Moving from theory to practice*. Cambridge University Press.

Gregory, S., & Masters, Y. (2010, August). *Six hats in Second Life: Enhancing preservice teacher education* [Conference presentation]. International Conference on Educational Technology, Singapore.

Grove, A. (2011). All in the same direction, all at the same time: An approach to enhancing creativity. *Collected Essays on Learning and Teaching, 4*, 7–13. https://doi.org/10.22329/celt.v4i0.3234

Gülcü, M. (2019). *The effect of the Six Thinking Hats technique on students' academic success, critical thinking and decision-making skills in teaching socioscientific issues* [Master's thesis, Karamanoğlu Mehmetbey University]. Karamanoğlu Mehmetbey University Institute of Science.

Gündüz, B. (2015). *A case study on university first-year students' book reading habits and critical reading skills* [Unpublished master's thesis]. Bilkent University, Institute of Educational Sciences.

Güzel, S. (2005). *The effect of fourth-grade elementary social studies teaching based on critical thinking skills on learning outcomes* [Unpublished master's thesis]. Mustafa Kemal University, Institute of Social Sciences, Hatay.

Halpern, D. F. (1996). *Thought and knowledge: An introduction to critical thinking* (3rd ed.). Lawrence Erlbaum Associates.

Halpern, D. F. (1998). Teaching critical thinking for transfer across domains: Dispositions, skills, structure training, and metacognitive monitoring. American Psychologist, 53(4), 449-455. Retrieved from https://eipd.dcs.wisc.edu/non-credit/LAAS nonDEPD/LMOWS/LMOWS_6500_Leadership/hypothesis%20readings/M 3/ Halpern%20Critical%20Thinking%201998.pdf

Hamby, B. (2015). Willingness to inquire: The cardinal critical thinking virtue. In M. Davies. & R. Barnett (Eds.), The Palgrave handbook of critical thinking (77-87). Palgrave Macmillan. https:/doi.org/10.1057/9781137378057_11

Harvey, V. S., & Chickie-Wolfe, L. A. (2007). *Fostering independent learning: Practical strategies to promote student success*. London: Guilford Press.

Hidayati, M., Inderawati, R., & Loeneto, B. (2020). The correlations among critical thinking skills, critical reading skills, and reading comprehension. English Review: Journal of English Education, 9(1), 69-80. https://doi.org/10.25134/erjee.v9i1.3780

Hollis, R. (2021). Readers' experiences of fiction and nonfiction influencing critical thinking and reading. *Journal of Information Science, 47*(2), 235–247. https://doi.org/10.1177/09610006211053040

House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (Eds.). (2011). *Culture, leadership, and organizations: The GLOBE study of 62 societies*. SAGE Publications.

Işık, H. (2010). *The relationship between high school students' critical reading levels, critical thinking tendencies, and reading frequency* [Unpublished master's thesis]. Anadolu University, Institute of Educational Sciences.

Ismail, L. I. F. H. (2021). The effect of utilizing the Six Thinking Hats strategy on developing the English language speaking skill and attitudes towards it among online EFL General Diploma students. *Journal of Education Sohag, 87*(87), 47–74. https://doi.org/10.21608/edusohag.2021.175350

Ismail, S. (2021). Applying Six Thinking Hats to develop EFL students' speaking skills and attitudes. *Cairo University Journal of Education, 94*(2), 35–46.

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

Jesson, J. (2012). Thinking hats and creative problem solving in the language classroom. *English Teaching Professional, 82*, 15–18.

Kachru, B. B. (1986). *The Alchemy of English: The Spread, Functions, and Models of Non-Native Englishes*. Oxford: Pergamon Press.

Kansaart, P., Suikraduang, A., & Panya, P. (2017). Developing the learning management evaluation model for fostering life skills in the 21st century of

lower secondary students' school classes. *European Journal of Education Studies, 3*(3), 109–125. https://doi.org/10.5281/zenodo.270237

Karabay, H. (2012). *Critical reading in foreign language teaching: Methods and approaches*. Journal of Language and Education, 15(4), 143-155.

Karadeniz, A. (2014). Validity and reliability study of the critical reading self-efficacy perception scale. *Bartın University Journal of Faculty of Education, 3*(1), 113–140.

Karakaş, M. E. (2021). *The effect of Six Thinking Hats activities on students' critical thinking skills and academic achievement: The case of natural resources* [Master's thesis, Gazi University]. Gazi University Institute of Educational Sciences.

Karasakaloğlu, N., & Bulut, B. (2012). Using fictional texts as a tool for improving critical reading skills. *Journal of Buca Faculty of Education, 33*, 101–104.

Kaya, M. F. (2013). The effect of Six Thinking Hats on student success in teaching subjects related to sustainable development in geography classes. *Educational Sciences: Theory & Practice, 13*(2), 1134–1139.

Keddie, A. (2002). Working with boys: The use of de Bono's Six Thinking Hats to explore and find alternatives to limited and restrictive understandings of masculinities. *The Primary Educator, 3*, 10–15.

Keyif, Z. (2021). *Metacognition and critical reading* [Unpublished master's thesis]. Maltepe University, School of Educational Sciences.

Kim, A.-H., Thompson, T., & Misquitta, R. (2012). Critical factors in reading comprehension instruction for students with learning disabilities: A research synthesis. *Learning Disabilities Research & Practice, 27*(2), 66–78. https://doi.org/10.1111/j.1540-5826.2012.00352.x

Kırmızı, B. (2012). The effect of six-hat drama technique on student achievement in German language classes. *Adıyaman University Journal of Social Sciences Institute, 10*, 265–290.

Kivunja, C. (2015). Using de Bono's Six Thinking Hats model to teach critical thinking and problem solving skills essential for success in the 21st century economy. *Creative Education, 6*(3), 380–391.

Kline, R. B. (2011). Principles and practice of structural equation modeling (3rd ed.). The Guilford Press.

Knott, D. (2005). *Critical Reading Towards Critical Writing.* Toronto: New College Writing Center.

Kocakaya, A. (2017). *The effect of the Six Thinking Hats technique on the course success of 5th grade students in information technologies and software class* [Master's thesis, Erciyes University]. Erciyes University Institute of Educational Sciences.

Köksal, H. (2002). History teaching and the development of critical thinking skills. *Türk Yurdu, 22*(175), 87–90.

Koray, Ö. (2005). Student views on the application of Six Thinking Hats and attribute ranking techniques in science classes. *Educational Administration: Theory and Practice, 43*, 379–400.

Köse, N. (2006). *The impact of applying and evaluating the portfolio technique on students' autonomy and critical reading in English language education* [Unpublished doctoral dissertation]. Çukurova University, Institute of Educational Sciences.

Kramsch, C. (1993). Context and culture in language teaching. Oxford University Press.

Kruse, K. (2010). *Six Thinking Hats*. In *Effective Learning Techniques* (p. 71). Education Press.

Kruse, O. (2010). Writing and learning in English as a foreign language: A discourse-analytic study. *Language and Education, 24*(2), 149–164.

Küçükoğlu, H. (2008). *Self-efficacy perceptions of prospective English teachers regarding critical reading (Examples from Dicle, Başkent, and Hacettepe Universities)* [Unpublished master's thesis]. Dicle University, Institute of Social Sciences.

Kurudayıoğlu, M., & Çelik, G. (2009). Critical thinking education in Turkish literature classes. *Hitit University Journal of Social Sciences Institute*, 2(1), 79–92.

Lewin, L. (2010). Teaching critical reading with questioning strategies. *Educational Leadership, 67*(6). https://www.ascd.org/el/articles/teaching-critical-reading-with-questioning-strategies

Lipman, M. (1988). Critical thinking: What can it be? *Educational Leadership, 46*(1), 38–43.

Maker, C. J., & Lineer, M. (1996). *Developing critical thinking through reading*. International Journal of Educational Research, 24(1), 10-20.

Marrapodi, J. (2003). Critical thinking and creativity: An overview and comparison. *International Journal of Thinking Skills*, 5(2), 12–19.

Moeiniasl, F., Taylor, S., de Braga, A., et al. (2022). Critical thinking skills of EFL undergraduates in a psychology course. *Thinking Skills and Creativity, 44*, 524–533.

Morsy, M. H., & Darweesh, A. D. (2021). The effect of Six Thinking Hats strategy on developing EFL learners' critical thinking and problem-solving skills. *Journal of Language Teaching and Research, 12*(5), 823–831.

Nassar, M. A. (2020). The impact of Six Thinking Hats on student performance in discussion-based learning environments. *International Journal of Instruction, 13*(4), 457–472.

Nosratinia, M., & Adibifar, S. (2018). Impact of teaching critical thinking skills on reading comprehension in EFL learners. *Journal of Language Teaching and Research, 9*(1), 42–46.

Odabaş, M., Odabaş, K., & Polat, N. (2008). *The role of critical thinking in reading comprehension*. Journal of Educational Psychology, 31(2), 431-440.

Orhan, Ö. (2007). *An evaluation of the use of critical reading techniques in primary school citizenship and human rights education course* [Unpublished master's thesis]. Gazi University, Institute of Educational Sciences.

Orhan, S. (2010). *The effect of the Six Thinking Hats technique on improving the speaking skills of 8th grade students in primary education* [Master's thesis, Atatürk University]. Atatürk University Institute of Social Sciences.

Oxford, R. (2003). Language learning styles and strategies: An overview. *GALA*, 2003, 1–25.

Ozensoy, A. U. (2021). The effect of critical reading skill on academic success in social studies. *International Journal of Curriculum and Instruction, 13*(1), 59–67.

Paige, D. (2024). Critical thinking in reading comprehension: Fine tuning the simple view of reading. *Reading Psychology, 45*(1), 1–9.

Palinscar, A. S., & Brown, A. L. (1984). Reciprocal Teaching of Comprehension-Fostering and Comprehension-Monitoring Activities. Cognition and Instruction, 1(2), 117–175. https://doi.org/10.1207/s1532690xci0102_1

Pardede, P. (2007). Critical reading in English as a foreign language classrooms. Language Education in Asia, 1(1), 32-39.

Partnership for 21st Century Learning. (2016). P21 framework for 21st century learning. Washington, DC: Partnership for 21st Century Learning. Retrieved from www.P21.org

Paul, R., & Elder, L. (2006). *Critical thinking: Tools for taking charge of your learning and your life* (2nd ed.). Pearson.

Paul, R., & Elder, L. (2008). *The miniature guide to critical thinking: Concepts and tools*. Foundation for Critical Thinking.

Paul, R.W., & Elder, L. (2008). The Miniature Guide to Critical Thinking Concepts & Tools.

Pinto, M., López-Pérez, L., & Sales, D. (2015). Assessing information literacy competence for higher education: Findings from Spain. *Journal of Information Science, 41*(5), 609–619.

Pirozzi, J. (2003). *Critical reading and comprehension: Understanding and interpreting texts*. University Press.

Plano Clark, V. L. (2011). The adoption and practice of mixed methods: U.S. trends in federally funded health-related research. Qualitative Inquiry, 16(6), 428–440.

Rizk, A. R. L. Y. (2021). Using graphic organizers for developing EFL critical reading skills among first-year secondary students. *Journal of Research in Curriculum, Instruction and Educational Technology, 7*(2), 11–19.

Robinson, F. P. (1941). Effective study. New York: Harper & Row.

Sadioğlu, Ö., & Bilgin, A. (2008). The relationship between primary school students' critical reading skills, gender, and parental education level. *Elementary Education Online, 7*(3), 814–822.

Salameh, A. A., Salameh, T. A., & Al-Emami, A. H. (2019). Using cognitive and metacognitive strategies to improve reading. *International Journal of Educational Psychology, 8*(2), 534–542.

Şara Hürsoy, P., & Karadedeli, İ. (2023). An examination of 4th grade primary school students' critical reading and problem-solving skills in terms of various variables: A case from Uşak. *Educational Academic Research, 47*, 26–40. https://doi.org/10.5152/AUJKKEF.2022.824817

Sari, D. (2018). The correlation between students' critical thinking skills and their reading comprehension. *Journal of English Language Teaching, 7*(1), 0–8.

Scholes, R. E. (1985). Textual power: Literary theory and the teaching of English. Yale University Press.

Schunk, D. H. (2003). Self-efficacy for reading and writing: Influence of modeling, goal setting, and self-evaluation. *Reading & Writing Quarterly, 19*(2), 159–172. https://doi.org/10.1080/10573560308219

Scriven, M., & Paul, R. (1987). Critical thinking as defined by the National Council for Excellence in Critical Thinking. 8th Annual International Conference on Critical Thinking and Education Reform.

Serrat, O. (2017). Wearing Six Thinking Hats. In Springer eBooks (pp. 615–618). https://doi.org/10.1007/978-981-10-0983-9_67

Silalahi, R. M. (2018). Assessing students' understanding of critical reading and its impact on their lives. *Indonesian Journal of English Education, 5*(2), 191–203. https://doi.org/10.15408/ijee.v5i2.9532

Spears, C. (2012). *Critical reading and language proficiency*. English Language Teaching Journal, 56(2), 125-130.

Spears, D. (1999). Developing Critical Reading Skills. Boston: McGraw-Hill College.

Spears, D. (1999). *Developing critical reading skills*. McGraw-Hill.

Sternberg, R. J., & Halpern, D. F. (2020). *Critical thinking in psychology* (2nd ed.). Cambridge University Press.

Stetson University Writing Program. (n.d.). *Critical reading*. https://www.stetson.edu/other/writing-program/media/CRITICAL%20READING.pdf

Stone, C. (2005). *How to use Edward de Bono's Six Thinking Hats in training*. Gower Publishing.

Tamura, Y., & Furukawa, S. (2007). CSCL environment for "Six Thinking Hats" discussion. In R. J. Howlett, L. C. Jain (Eds.), *Knowledge-Based Intelligent Information and Engineering Systems* (pp. 583–589). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-540-74829-8_71

Tan, H. (2023). Critical reading skills in English of incoming grade 10 learners: An analysis and interpretation. *International Journal of Multidisciplinary: Applied Business and Education Research, 4*, 3766–3776. https://doi.org/10.11594/ijmaber.04.10.27

Tezbaşaran, A. A. (2008). *A guide to developing Likert-type scales*. Mersin University, Institute of Educational Sciences.

Thongwichit, N., & Buripakdi, A. (2021). EFL university students' awareness of metacognitive reading strategies. *LEARN Journal: Language Education and Acquisition Research Network, 14*(2), 124–142

Tomasek, T. (2009). Critical reading: Using reading prompts to promote active engagement with text. *International Journal of Teaching and Learning in Higher Education, 21*(1), 127–132.

Ünal, E. (2006). *The relationship between primary school students' critical reading skills, reading comprehension, and attitudes toward reading* [Unpublished master's thesis]. Osmangazi University, Institute of Social Sciences.

Van, M., Liu, H., & Tan, C. (2022). *Critical reading in higher education: A review of research and practice*. Journal of Literacy Research, 58(1), 1-4.

Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Harvard University Press.

Wallace, C. 1992. Critical literacy awareness in the EFL classroom. In Critical language awareness, ed. N. Fairclough, 59–92. London: Longman.

Wallace, Catherine. (2003). Critical Reading in Language Education. 10.1057/9780230514447.

Wilson, K. (2016). Critical reading, critical thinking: Delicate scaffolding in English for Academic Purposes (EAP). *Thinking Skills and Creativity, 22*, 256–265.

Wilson, L. O. & Anderson and Krathwohl. (2016). Bloom's taxonomy revised. https://quincycollege.edu/wp-content/uploads/Anderson-and-Krathwohl_Revised-Blooms-Taxonomy.pdf

Yang, J., & Mei, F. (2024). Promoting critical reading instruction in higher education: A three-step training scheme facilitated by using corpus technology. *Language Teaching Research, 28*(2), 251–259.

Younis, S., Naeem, S., Ali, Z., & Yaqoob, N. (2023). A study of the relationship between critical reading and critical thinking abilities of undergraduate learners. *International Journal of Instruction, 16*(3), 75–84.

Zimmerman, B. J. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology, 25*(1), 82–91. https://doi.org/10.1006/ceps.1999.1016

APPENDICES

Appendix 1. Ethical Approval Document

YILDIZ TEKNİK ÜNİVERSİTESİ
Sosyal ve Beşeri Bilimler Araştırmaları Etik Kurulu

Toplantı Tarihi: 05.01.2025 **Toplantı No: 2025.01**

SOSYAL VE BEŞERİ BİLİMLER ARAŞTIRMALARI ETİK KURULU TOPLANTI KARARI

Yürütücülüğünü Üniversitemiz Sosyal Bilimler Enstitüsü öğretim üyelerinden Dr. Semin KAZAZOĞLU danışmanlığında lisansüstü öğrencisi YUSUF SEFA ÖZTÜRK tarafından yapılacak olan "Altı Şapkalı Düşünme Tekniği İle Eleştirel Okuma Becerilerinin Geliştirilmesi Eleştirel Düşünme Becerileri Üzerine Bir Çalışma" adlı çalışma ve bu çalışmada kullanılacak veri toplama araçları ve yöntemlerine ilişkin bilgilerde etiğe aykın herhangi bir bulguya rastlanmamıştır.

Etik Kurul Üyeleri

DocuSigned by:
07F20CD75AD8430...
Prof. Dr. Murat DONDURAN
Başkan

DocuSigned by:
9D5618D3F2674C8...
Prof. Dr. Fatih GÜLGEN
Üye

DocuSigned by:
D8CAA832588B413...
Prof. Dr. Yiğit EVREN
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DocuSigned by:
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Doç. Dr. Begüm SATICI
Üye

DocuSigned by:
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Doç. Dr. Nur CEMELELİOĞLU
Üye

DocuSigned by:
AEDFCC489DA74F0...
Doç. Dr. Gülbin ÖZKAN
Üye

DocuSigned by:
7FF802A54D7049F...
Dr. Öğr. Üyesi H. Ağan KARADUMAN
Üye

Appendix 2. Parent Consent Form for Student Participation in Research

VELİ ONAM FORMU

Sayın Veli;

Aşağıda bilgileri yer alan araştırma T.C. Millî Eğitim Bakanlığının izni ile gerçekleşmektedir. Araştırma uygulamasına katılım tamamıyla gönüllülük esasına dayalı olmaktadır. Çocuğunuz araştırmaya katılıp katılmamakta özgürdür. Araştırma çocuğunuz için herhangi bir istenmeyen etki ya da risk taşımamaktadır. Çocuğunuzun katılımı sizin onayınıza bağlıdır. Araştırmaya katılım sağlanamaması veya araştırmadan ayrılma durumunda öğrencilerin akademik başarıları, okul ve öğretmenleriyle olan ilişkileri etkilenmeyecektir. Araştırmada öğrencilerden kimlik belirleyici hiçbir bilgi istenmemektedir. Cevaplar gizli tutulacak ve sadece araştırmacı tarafından değerlendirilecektir. Araştırma uygulamaları, kişisel rahatsızlık verecek sorular ve durumlar içermemektedir. Ancak, katılım sırasında çocuğunuz sorulardan ya da herhangi başka bir nedenden kendisini rahatsız hissederse cevaplama işini yarıda bırakıp çıkmakta özgürdür. Çocuğunuz araştırmaya katıldıktan sonra istediği an vazgeçebilir. Böyle bir durumda veri toplama aracını uygulayan kişiye, araştırmayı tamamlamayacağını söylemesi yeterli olacaktır. Araştırmaya katılmamak ya da katıldıktan sonra vazgeçmek çocuğunuza hiçbir sorumluluk getirmeyecektir. Onay vermeden önce konu ile ilgili herhangi bir sorunuz varsa aşağıda iletişim bilgileri verilen araştırmacıya sorabilirsiniz.

Araştırmacının Adı Soyadı	Yusuf Sefa ÖZTÜRK
Araştırmacının İletişim Bilgileri	:
Araştırmanın Adı	Altı Şapkalı Düşünme Tekniği İle Eleştirel Okuma Becerilerinin Geliştirilmesi Üzerine Bir Çalışma
Araştırmanın Amacı	Bu araştırmanın amacı, Altı Şapkalı Düşünme Tekniğinin yabancı dilde eleştirel okuma becerilerini ve eleştirel düşünme süreçlerini geliştirmeye etkisini incelemektir.

Velisi bulunduğum ..... sınıfı ..... numaralı öğrenci ..... 'in yukarıda açıklanan araştırmaya katılmasına izin veriyorum. .../.../.....

İmza:

Velinin Adı-Soyadı:

(*Lütfen formu imzaladıktan sonra çocuğunuzla okula geri gönderiniz.)

Ses / Görüntü Kaydı Veli Onamı

☐ Yalnızca ses kaydı alınmasına izin veriyorum.

☐ Görüntü kaydı alınmasına izin veriyorum.

☐ Ses ve görüntü kaydı alınmasına izin vermiyorum.

Herhangi bir veli, çocuğunun ses/görüntü kaydının alınmasını onaylamadığı takdirde çocuktan kayıt alınmayacaktır.

Appendix 3. Participant Consent and Audio/Visual Recording Approval Form

AYRINTILI BİLGİLENDİRME VE GÖNÜLLÜ KATILIM FORMU

Sayın Katılımcı,

Aşağıda ayrıntılı bilgileri yer alan araştırma T.C. Millî Eğitim Bakanlığının izni ile gerçekleşmektedir. Araştırma uygulamasına katılım tamamıyla gönüllülük esasına dayalı olmaktadır. Araştırmaya katılıp katılmamakta özgürsünüz. Araştırma herhangi bir istenmeyen etki ya da risk taşımamaktadır. Katılımınız tamamen sizin isteğinize bağlıdır, reddedebilir ya da herhangi bir aşamasında ayrılabilirsiniz. Araştırmaya katılım sağlanamaması veya araştırmadan ayrılma durumunda okul ile ilgili ilişkileriniz etkilenmeyecektir. Araştırmada sizden kimlik belirleyici hiçbir bilgi istenmemektedir. Cevaplar gizli tutulacak ve sadece araştırmacılar tarafından değerlendirilecektir. Araştırma uygulamaları, kişisel rahatsızlık verecek sorular ve durumlar içermemektedir. Ancak, katılım sırasında sorulardan ya da herhangi başka bir nedenden kendinizi rahatsız hissederseniz cevaplama işini yarıda bırakıp çıkmakta özgürsünüz. Araştırmaya katıldıktan sonra istediğiniz an vazgeçebilirsiniz. Böyle bir durumda veri toplama aracını uygulayan kişiye, araştırmayı tamamlamayacağınızı söylemeniz yeterli olacaktır. Araştırmaya katılmamak ya da katıldıktan sonra vazgeçmek size hiçbir sorumluluk getirmeyecektir. Onay vermeden önce konu ile ilgili herhangi bir sorunuz varsa aşağıda iletişim bilgileri verilen araştırmacıya sorabilirsiniz.

Araştırmacının Adı Soyadı	Yusuf Sefa ÖZTÜRK
Araştırmacının İletişim Bilgileri	
Araştırmanın Adı	Altı Şapkalı Düşünme Tekniği İle Eleştirel Okuma Becerilerinin Geliştirilmesi Eleştirel Düşünme Becerileri Üzerine Bir Çalışma
Araştırmanın Amacı	Bu araştırmanın amacı, Altı Şapkalı Düşünme Tekniği'nin yabancı dilde eleştirel okuma becerilerini ve eleştirel düşünme süreçlerini geliştirmeye etkisini incelemektir.

Yukarıda bilgileri bulunan araştırmaya katılmayı kabul ediyorum. …/…/.....

İmza:

Katılımcının Adı-Soyadı:

Ses / Görüntü Kaydı Onamı

☐ Yalnızca ses kaydı alınmasına izin veriyorum.
☐ Görüntü kaydı alınmasına izin veriyorum.
☐ Ses ve görüntü kaydı alınmasına izin vermiyorum.

Herhangi bir katılımcı, ses/görüntü kaydının alınmasını onaylamadığı takdirde katılımcıdan kayıt alınmayacaktır.

***Araştırmada ses/görüntü kaydı alınacaksa Ses Görüntü Kaydı Onam kutucuğu formda yer almalı, ses/görüntü kaydı alınmayacaksa Ses Görüntü Kaydı Onam kutucuğu formdan çıkarılmalıdır.**

Appendix 4. Demographic Information Questionnaire

Question	Answer Options
How many siblings do you have?	[Open-ended]
How often do you read outside of school?	○ Never ○ Rarely ○ Occasionally ○ Often ○ Always
Approximately how many books do you read in a month?	○ None ○ 1–2 books ○ 3–5 books ○ More than 5 books
Do you enjoy reading books in Turkish?	○ Yes ○ No ○ Sometimes
Do you enjoy reading books in English?	○ Yes ○ No ○ Sometimes
How often do you read English texts outside of lessons?	○ Never ○ Rarely ○ Occasionally ○ Often ○ Always
Do you read books on digital devices (tablet, phone, etc.)?	○ Yes ○ No
Do you have a bookshelf or reading corner at home?	○ Yes ○ No
What types of books do you prefer reading? (You can choose more than one.)	○ Story books ○ Novels ○ Science books ○ History books ○ Magazines
What types of English materials do you prefer reading? (You can choose more than one.)	○ Stories ○ Textbooks ○ News articles ○ Websites ○ Social media content ○ Other: _____

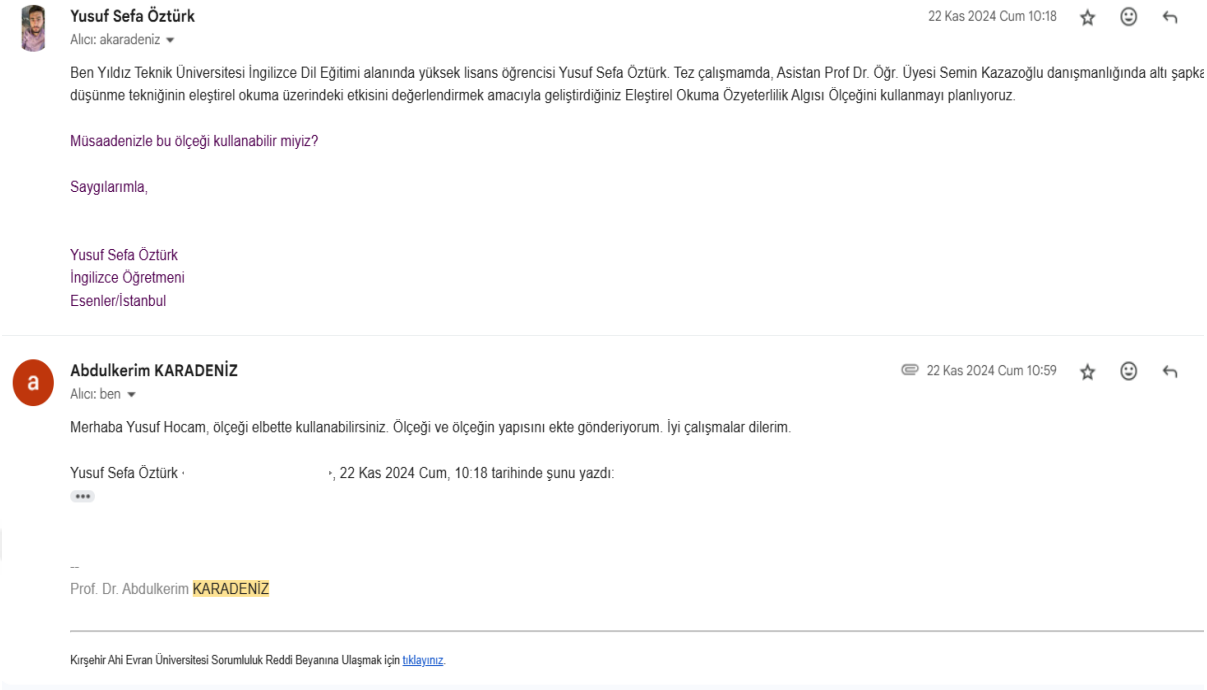
Appendix 5. Critical Reading Self-Efficacy Scale (Karadeniz, 2014)

ELEŞTİREL OKUMA ÖZYETERLİLİK ALGISI ÖLÇEĞİ

SEÇENEKLER	Hiç Katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Tamamen Katılıyorum
1. Okuduğum metinden hareketle yazarın bakış açısını sorgulayabilirim.					
2. Okuduğum metinde yazarın başarısını sorgulamakta zorlanırım.*					
3. Temel düşünceleri destekleyen yardımcı düşüncelerin doğruluğunu tartışabilirim.					
4. Metnin yazılış amacına ne ölçüde ulaştığını tartışabilirim.					
5. Okuduğum metindeki düşüncelerin güvenilir olup olmadığını kontrol ederim.					
6. Anlatılan ya da okuduğum bir metinde yer alan çelişkileri bulabilirim.					
7. Okuduğum bir hikâye ya da romandaki karakterlerin davranışlarını sorgulamakta zorlanırım.*					
8. Öğretici metinlerde yazarın verdiği bilgileri sorgulayabilirim.					
9. Öğretici metinlerin tutarlı ve tutarsız yanlarını belirleyebilirim.					
10. Öğretici metinlerde yazarın öne sürdüğü düşüncelerin günümüzde uygulanıp uygulanamayacağını belirleyebilirim.					
11. Okuduğum metinden genel bir mesaj çıkarmakta zorlanırım.*					
12. Okuduğum bir metnin nasıl gelişeceğini tahmin edebilirim.					
13. Son tarafı verilmiş bir metnin önceki bölümlerini tahmin edebilirim.					
14. Bir cümle ya da metinde bırakılan boşlukları uygun şekilde tamamlayabilirim.					
15. Okuduğum metnindeki olay örgüsünün gelişimini tahmin edebilirim.					
16. Bir metne farklı bakış açıları ile yaklaşmakta sıkıntı çekerim.*					
17. Yazarın bir metni hangi amaçla yazdığını tahmin edebilirim.					
18. Okuduğum metni farklı kılan hususları belirleyebilirim.					
19. Okuduğum roman ya da hikâyedeki kişilerin kişilik özelliklerini tahmin edebilirim.					
20. Okuduğum bir metnin ana fikrini bulabilirim.					
21. Metinde ana fikri destekleyen yardımcı fikirleri bulmakta sıkıntı çekerim.*					
22. Okuduğum bir metindeki konu ya da tema ile ilgili düşüncelerimi açıklayabilirim.					
23. Bir metinde olay, mekân ve kişi arasındaki ilişkiyi belirleyebilirim.					
24. Olaylar ve kavramlar arasındaki neden-sonuç ilişkisini açıklayabilirim.					
25. Okuduğum metinden hareketle metnin yazılış amacını belirlemekte zorlanırım.*					
26. Bir metinde giriş, gelişme ve sonuç bölümleri arasında neden sonuç ilişkisi kurabilirim.					
27. Okuduğum roman ya da hikâyedeki olayları neden-sonuç ilişkisiyle birbirine bağlamakta sıkıntı yaşarım.*					
28. Bir metinden hareketle ulaşılabilecek yargıları bulabilirim.					
29. Okuduğum metinde kurmaca olanla olmayanı belirleyebilirim.					
30. Söz ve söz gruplarının metinde kazandıkları anlam değerini belirleyebilirim.					
31. Metin içindeki görüşleri ve bu görüşlerin karşıtı görüşleri belirleyebilirim.					
32. Bir metinde birbirini destekleyen ya da birbiriyle çelişen ifadeleri bulmakta zorlanırım.*					
33. Okuduğum metinde birbiri ile çatışan olay, durum ya da kişileri belirleyebilirim.					

* Olumsuz maddeler

Appendix 6. Permission to Use the Critical Reading Self-Efficacy Scale



Yusuf Sefa Öztürk 22 Kas 2024 Cum 10:18

Alıcı: akaradeniz

Ben Yıldız Teknik Üniversitesi İngilizce Dil Eğitimi alanında yüksek lisans öğrencisi Yusuf Sefa Öztürk. Tez çalışmamda, Asistan Prof Dr. Öğr. Üyesi Semin Kazazoğlu danışmanlığında altı şapka düşünme tekniğinin eleştirel okuma üzerindeki etkisini değerlendirmek amacıyla geliştirdiğiniz Eleştirel Okuma Özyeterlilik Algısı Ölçeğini kullanmayı planlıyoruz.

Müsaadenizle bu ölçeği kullanabilir miyiz?

Saygılarımla,

Yusuf Sefa Öztürk
İngilizce Öğretmeni
Esenler/İstanbul

Abdulkerim KARADENİZ 22 Kas 2024 Cum 10:59

Alıcı: ben

Merhaba Yusuf Hocam, ölçeği elbette kullanabilirsiniz. Ölçeği ve ölçeğin yapısını ekte gönderiyorum. İyi çalışmalar dilerim.

Yusuf Sefa Öztürk , 22 Kas 2024 Cum, 10:18 tarihinde şunu yazdı:

--
Prof. Dr. Abdulkerim KARADENİZ

Kırşehir Ahi Evran Üniversitesi Sorumluluk Reddi Beyanına Ulaşmak için tıklayınız.

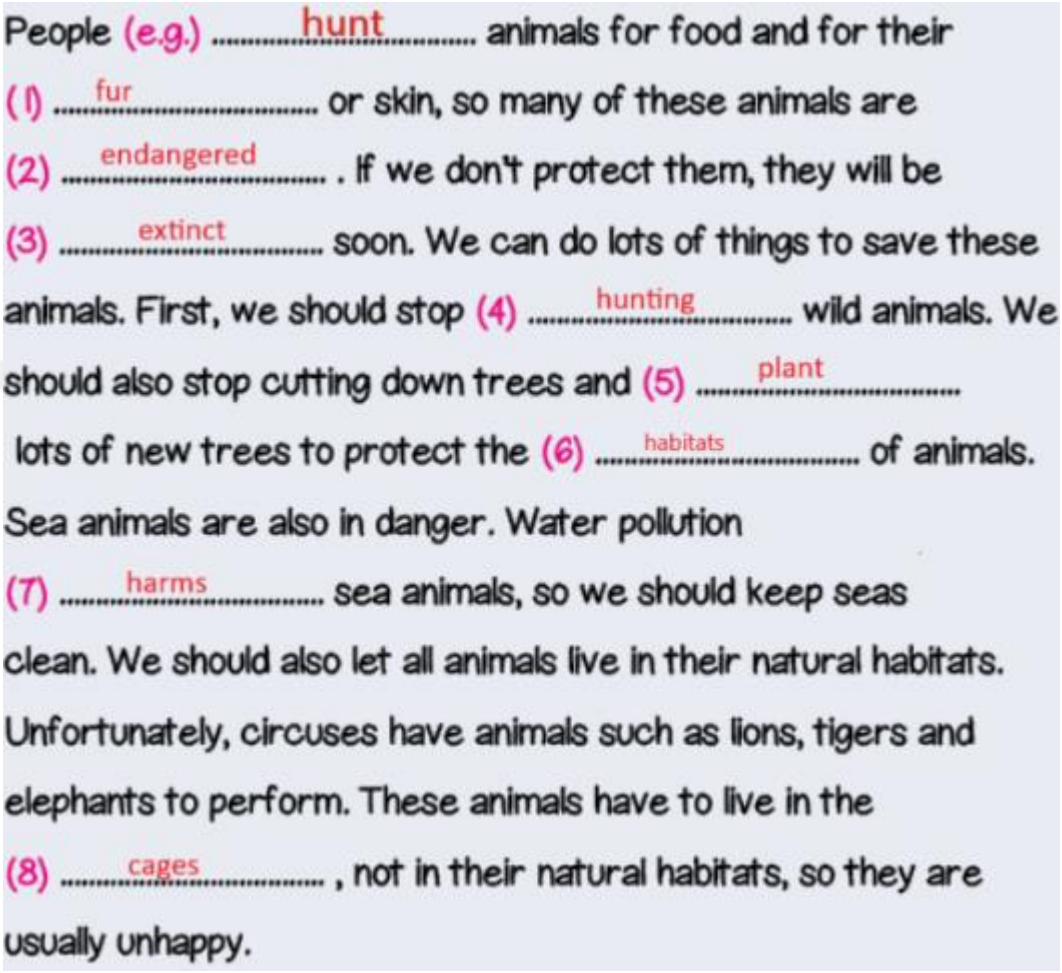
Appendix 7. Post-Intervention Semi-Structured Focus Group Questions

(Applied in Turkish – Participants' L1)

What do you think about the activity we did using the Six Thinking Hats technique? Did you enjoy it, or did you find it difficult?
Do you think working with this method is better than answering the usual textbook questions? Why?
Did using English during this activity make it harder for you? How did you feel while forming sentences or expressing your thoughts?
How did working in a group help you? Was it easy or helpful for you to exchange ideas with your classmates?
Which of the six hats helped you the most? Which hat was easier or more enjoyable to think with? Why?
What was the most challenging part of this activity for you? Was it thinking, writing, or using English? Please explain.
Do you think this method made you more interested in the text? Did it help you understand the text better?
Would you like to work with this method again in future English lessons? Why?

Appendix 8. Texts and Corresponding Researcher-Prepared Higher Order Questions (Control Group)

Text 1- Unit: Wild Animals *(Retrieved from Team Ahead with English 7 by Team ELT Publishing)*


People (e.g.) hunt animals for food and for their (1) fur or skin, so many of these animals are (2) endangered . If we don't protect them, they will be (3) extinct soon. We can do lots of things to save these animals. First, we should stop (4) hunting wild animals. We should also stop cutting down trees and (5) plant lots of new trees to protect the (6) habitats of animals. Sea animals are also in danger. Water pollution (7) harms sea animals, so we should keep seas clean. We should also let all animals live in their natural habitats. Unfortunately, circuses have animals such as lions, tigers and elephants to perform. These animals have to live in the (8) cages , not in their natural habitats, so they are usually unhappy.

Researcher-Prepared Questions: (Control Group):

1. Why do some people want animal fur or skin? Do you think this is okay? Why or why not?

.....

2. The text says we should plant trees. What other ideas do you have to help animals?

.....

3. What does the writer think about animals living in cages? How do you understand this?

.....

4. If people keep throwing trash into the sea, what could happen to sea animals in the future?

.....

5. What problems do people cause that make animals disappear? Give two examples from the text.

.....

6. What things do people do in the text that hurt animals? Explain with your own words.

.....

7. The writer says circus animals are usually unhappy. Do you agree? Why or why not?

.....

8. Do you think the writer's suggestions really work in real life? Why?

.....

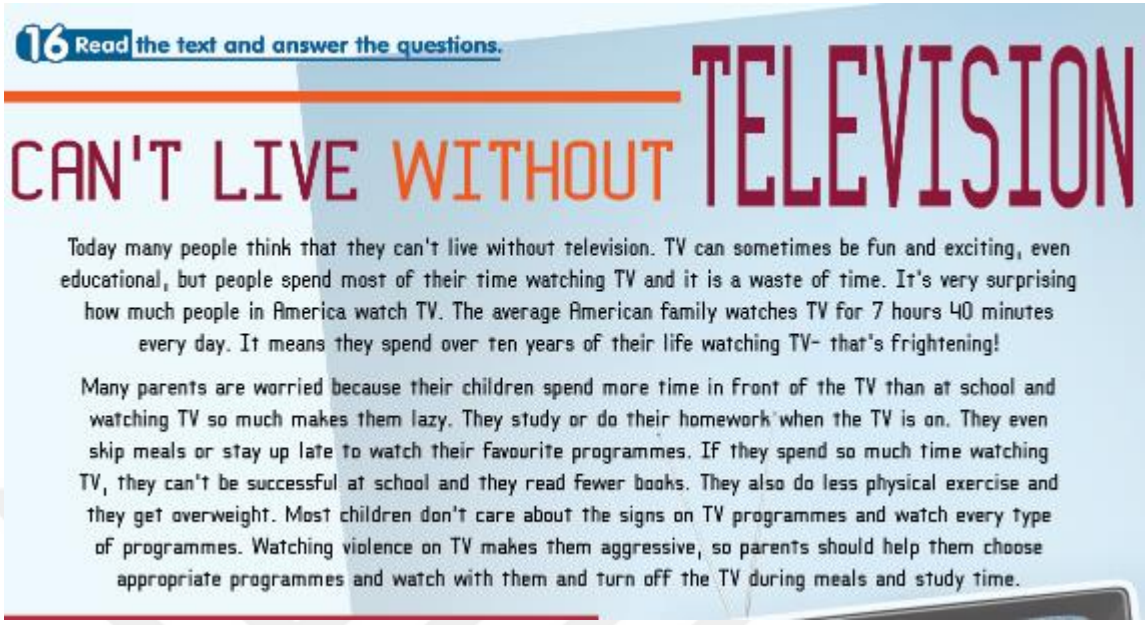
9. What are the problems of land animals and sea animals in the text? How are they the same or different?

.....

10. How is life in a circus different from life in nature for animals?

.....

Text 2 – Unit: Television *(Retrieved from Team Ahead with English 7 by Team ELT Publishing)*



16 Read the text and answer the questions.

CAN'T LIVE WITHOUT TELEVISION

Today many people think that they can't live without television. TV can sometimes be fun and exciting, even educational, but people spend most of their time watching TV and it is a waste of time. It's very surprising how much people in America watch TV. The average American family watches TV for 7 hours 40 minutes every day. It means they spend over ten years of their life watching TV- that's frightening!

Many parents are worried because their children spend more time in front of the TV than at school and watching TV so much makes them lazy. They study or do their homework when the TV is on. They even skip meals or stay up late to watch their favourite programmes. If they spend so much time watching TV, they can't be successful at school and they read fewer books. They also do less physical exercise and they get overweight. Most children don't care about the signs on TV programmes and watch every type of programmes. Watching violence on TV makes them aggressive, so parents should help them choose appropriate programmes and watch with them and turn off the TV during meals and study time.

Researcher-Prepared Questions: (Control Group):

1. Why do many people think they can't live without television?

.....

2. How much time does an average American family spend watching TV?

.....

3. Why are some parents worried about their children watching too much TV?

.....

4. What are some problems children face when they watch too much television?

.....

5. Do you think watching TV while doing homework is a good idea? Why or why not?

.....

6. How can watching violent programmes affect children, according to the text?

.....

7. The author says people spend "over ten years of their life" watching TV. What do you think about this?

.....

8. What are some better things people can do instead of watching too much TV?

.....

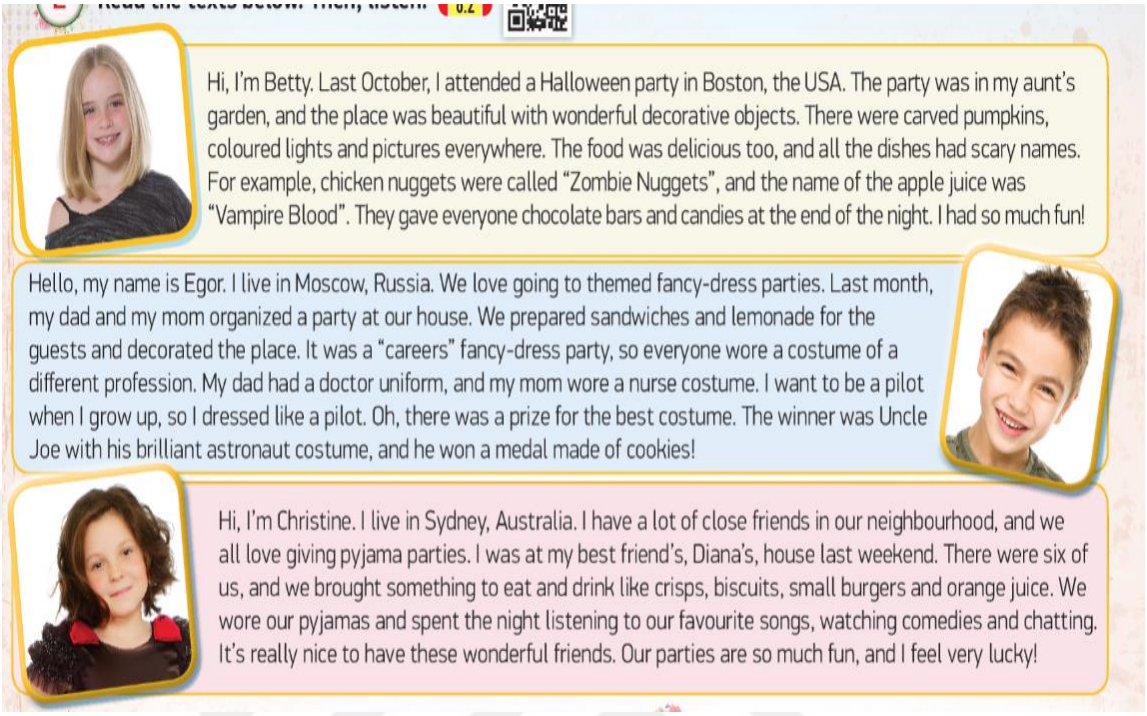
9. Do you think all TV programmes are bad? Why or why not?

.....

10. What can parents do to help their children watch TV in a better way?

.....

Text 3 – Unit: Celebrations *(Retrieved from Team Marathon Plus-Grade 7 YDS Publishing)*



Hi, I'm Betty. Last October, I attended a Halloween party in Boston, the USA. The party was in my aunt's garden, and the place was beautiful with wonderful decorative objects. There were carved pumpkins, coloured lights and pictures everywhere. The food was delicious too, and all the dishes had scary names. For example, chicken nuggets were called "Zombie Nuggets", and the name of the apple juice was "Vampire Blood". They gave everyone chocolate bars and candies at the end of the night. I had so much fun!

Hello, my name is Egor. I live in Moscow, Russia. We love going to themed fancy-dress parties. Last month, my dad and my mom organized a party at our house. We prepared sandwiches and lemonade for the guests and decorated the place. It was a "careers" fancy-dress party, so everyone wore a costume of a different profession. My dad had a doctor uniform, and my mom wore a nurse costume. I want to be a pilot when I grow up, so I dressed like a pilot. Oh, there was a prize for the best costume. The winner was Uncle Joe with his brilliant astronaut costume, and he won a medal made of cookies!

Hi, I'm Christine. I live in Sydney, Australia. I have a lot of close friends in our neighbourhood, and we all love giving pyjama parties. I was at my best friend's, Diana's, house last weekend. There were six of us, and we brought something to eat and drink like crisps, biscuits, small burgers and orange juice. We wore our pyjamas and spent the night listening to our favourite songs, watching comedies and chatting. It's really nice to have these wonderful friends. Our parties are so much fun, and I feel very lucky!

Researcher-Prepared Questions: (Control Group):

1. What kind of decorations were there at Betty's Halloween party? How do they make the party feel?

.....

2. Why do you think Egor and his family chose job costumes for the party?

.....

3. How is Christine's party different from Betty's party?

.....

4. Do you think these children are telling real stories or just writing for fun? How do you know?

.....

5. What things show us each child's country or culture in the text?

.....

6. Which party would you like to go to? Why? Use ideas from the texts.

.....

7. How are Egor's and Betty's parents similar or different in the party?

.....

8. Do you think these children enjoyed their parties? Why do you think so?

.....

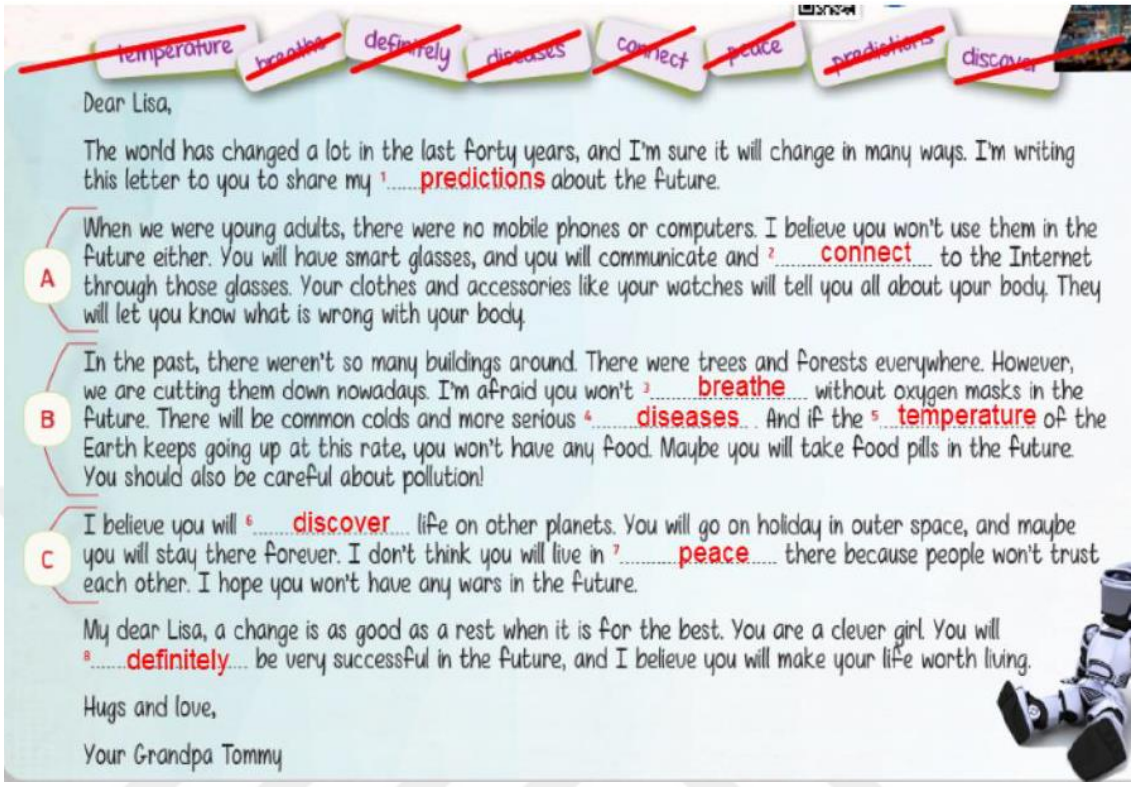
9. Where was Betty's party and who organized it?

.....

10. What did Christine and her friends do at the pyjama party?

.....

Text 4 – Unit: Dreams *(Retrieved from Team Marathon Plus-Grade 7 YDS Publishing)*



~~temperature~~ ~~breathe~~ ~~definitely~~ ~~diseases~~ ~~connect~~ ~~peace~~ ~~predictions~~ ~~discover~~

Dear Lisa,

The world has changed a lot in the last forty years, and I'm sure it will change in many ways. I'm writing this letter to you to share my [1] predictions about the future.

A When we were young adults, there were no mobile phones or computers. I believe you won't use them in the future either. You will have smart glasses, and you will communicate and [2] connect to the Internet through those glasses. Your clothes and accessories like your watches will tell you all about your body. They will let you know what is wrong with your body.

B In the past, there weren't so many buildings around. There were trees and forests everywhere. However, we are cutting them down nowadays. I'm afraid you won't [3] breathe without oxygen masks in the future. There will be common colds and more serious [4] diseases. And if the [5] temperature of the Earth keeps going up at this rate, you won't have any food. Maybe you will take food pills in the future. You should also be careful about pollution!

C I believe you will [6] discover life on other planets. You will go on holiday in outer space, and maybe you will stay there forever. I don't think you will live in [7] peace there because people won't trust each other. I hope you won't have any wars in the future.

My dear Lisa, a change is as good as a rest when it is for the best. You are a clever girl. You will [8] definitely be very successful in the future, and I believe you will make your life worth living.

Hugs and love,

Your Grandpa Tommy

Researcher-Prepared Questions: (Control Group):

1. What does Grandpa Tommy say about the future? Write 2 ideas.

.....

2. How will people learn about their body in the future, according to Grandpa?

.....

3. What will happen to nature and trees in the future?

.....

4. Why do people need oxygen masks in the future?

.....

5. How will people talk or connect with others in the future?

.....

6. Do you think the letter is happy or sad about the future? Why?

.....

7. Which idea in the letter do you think is true or possible? Explain.

.....

8. What is the feeling of this letter? Is it serious, funny, or hopeful?

.....

9. If you are Lisa, what would you write back to Grandpa Tommy?

.....

10. How do you feel after reading this letter? What does it make you think about the future?

.....

Appendix 9. Six Thinking Hats Reflection Form *(The structured reflection form used by the experimental group to record and present their thinking based on the six hats framework.)*

SIX THINKING HATS REFLECTION FORM

● YELLOW HAT – Positive Points

What are the good or useful ideas in the text?

1.

2.

3.

4.

● BLACK HAT – Negative Points / Problems

What are the weak points or problems in the text?

1.

2.

3.

4.

● RED HAT – Feelings and Emotions

What did you feel while reading?

1. ___

2. ___

3. ___

4. ___

○ WHITE HAT – Facts and Information

What facts or details did you learn?

1. ___
2. ___
3. ___
4. ___

● GREEN HAT – Creative and New Ideas

What new ideas or changes can you suggest?

1. ___
2. ___
3. ___
4. ___

● BLUE HAT – Reflection and Summary

What did you understand or learn overall?

1. ___
2. ___
3. ___
4. ___

Appendix 10. Images from Implementation (*All Participants' Faces Blurred for Ethical Compliance)*


SHINE COLORS
Black Hat
Green Hat
Yellow Hat
DINOSAUR