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Investigating The Impact of ChatGPT on Enhancing Critical Thinking in EFL Reading.

A Case of Master's Students at University Mohammed Khider of Biskra

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A Thesis Submitted to the Department of English and Literature in Partial Fulfilment of the Requirements for the Master's Degree in Sciences of the Language

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Declaration

I, Hadjer ROMANI, hereby declare that all information in this dissertation has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work. This study was carried out and completed for the academic year 2024/2025, at University Mohammed Khider of Biskra, Algeria.

Dedication

In the name of ALLAH the merciful, blessings and

peace be upon MUHAMMED the messenger of God

My profound gratitude find its way firstly to ALLAH the originator, the glorious, the satisfier of all needs, the everlasting whom my loyalties go to.

*To my mother "**Kinza**", the queen of my heart, the presence of her highness imposes beautiful rhythms on my life .To my father "**Tahar**" who always trusted his daughter.*

To my sisters,

*"**Hana**" for being my source of motivation and support. The one who encourage and advise me. "**Ahlem**" my savior all along the path. "**Alaa**" for your warmth, jokes, and all the sweet things you made for me. My sisters to your unconditional love, I will always be glad.*

*To my brothers "**Zaki**" and **"Salah**" my real supporters and my army that got my back through all these years.*

*To my little kittens, **Djouri**, **Ahmed**, and **Djoud**, who bring so much joy and color to my life.*

*To my friends of life **Hanane** and **Faten**, I am grateful that you have been always there for me.*

*To **Hakima, Somia**, and all my colleagues, I will bring back the memories that we have been through.*

To the experiences that we never expected, and the paths that were redirected.

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Abstract

In recent years, artificial intelligence (AI) has increasingly become integrated into educational settings, offering new opportunities and challenges for both learners and educators. With the growing use of AI tools like ChatGPT, questions arise regarding their impact on essential cognitive skills such as critical thinking. This study aims to explore the impact of ChatGPT in fostering critical thinking among EFL learners during reading activities. It investigates whether ChatGPT enhances CT in EFL reading tasks. The research targeted twenty five Master two students and six English teachers at the University of Mohamed Khider, Biskra. A descriptive mixed-method design was adopted, employing a questionnaire for students and interviews with teachers to gather diverse perspectives. The findings reveal that while many students frequently use ChatGPT to assist with reading and analysis tasks, their engagement with critical thinking varies. Some students benefit from the tool's ability to generate ideas, clarify texts, and offer different viewpoints, yet others expressed concerns about dependency and reduced independent thinking. Teachers generally viewed ChatGPT as a valuable educational support but stressed the importance of using it thoughtfully to prevent overreliance and promote active engagement. Overall, the study suggests that ChatGPT can enhance EFL learners' critical thinking when used reflectively, highlighting the need for pedagogical strategies that balance technological support with student autonomy.

Keywords: ChatGPT, Artificial Intelligence, Critical Thinking, EFL Learners, Reading Comprehension, AI in Education

List of abbreviations and acronyms

EFL: English as a Foreign Language

AI: Artificial Intelligence

GPT: Generative Pre-trained Transformer

CT: Citical Thinking

ASR: Automated Speech Recognition

MT: Machine Translation

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General Introduction

1. Background of the Study

Critical thinking is essential in the EFL learning process, enabling students to analyze, evaluate, and interpret texts beyond their surface meaning. However, EFL learners often struggle to develop critical thinking skills due to limited vocabulary, lack of background knowledge, and ineffective reading strategies (Arifin, 2020). Traditionally, educators have sought various pedagogical strategies to enhance students' critical engagement with texts, but with the advancement of technology, artificial intelligence (AI) has introduced new ways of interacting with reading materials.

Among the most widely used AI tools in education are generative AI models, such as ChatGPT, which produce text-based responses based on user input. Many EFL students rely on these tools to assist with academic tasks such as summarizing articles, simplifying complex texts, or searching for explanations of difficult concepts. While AI-generated content can facilitate comprehension by providing accessible versions of texts, its impact on learners' ability to think critically remains unclear. Some researchers argue that AI-generated texts may enhance students' analytical skills by exposing them to diverse perspectives, while others suggest that excessive reliance on AI tools might reduce deep engagement with reading materials.

Despite the growing use of AI in academic settings, little research has been conducted on how these technologies influence EFL learners' critical thinking through reading-related tasks. This study seeks to explore the extent to which AI-generated reading materials shape learners' ability to critically analyze, evaluate, and interpret texts, shedding light on the potential benefits and drawbacks of integrating AI into academic reading practices.

2. Statement of the Problem

Critical thinking plays a crucial role in reading comprehension, particularly for English as a Foreign Language (EFL) learners, as it enables them to analyze, evaluate, and interpret texts beyond their surface meaning (Arifin, 2020; Paige, Rupley, & Ziglari, 2024). Moreover, the development of artificial intelligence (AI) has profoundly altered the educational landscape, especially in the realm of reading comprehension. Tools such as ChatGPT provide consistently generated reading materials that are widely used by students. This innovation fosters a more interactive and stimulating educational environment, aiding learners in addressing challenges related to reading (Garib, 2024).

Despite the potential benefits of AI-generated content in supporting learners, the extent to which it influences the cultivation of critical thinking (CT) skills is still ambiguous. Some researchers argue that AI-generated content lacks the depth, emotional nuance, and human judgment necessary for fostering CT (Thabet & Zghal, 2013; Braun & Clarke, 2021; cited in Garib, 2024).

Although ChatGPT has become increasingly common in academic tasks, there remains a lack of research examining its direct effects on the EFL learners' critical reading skills. This study seeks to explore the extent to which ChatGPT influence EFL learners' critical thinking as they engage with text.

3. Aims of the Study

- **General Objective**

The primary aim of this study is to investigate the impact of AI-generative tools on EFL learners' critical thinking skills in reading comprehension.

- **Specific Aims**

Specifically, the study seeks:

1. To investigate the impact of ChatGPT on EFL learners' critical reading skills.
2. To analyze EFL learners' perceptions of ChatGPT's role in enhancing their critical thinking in reading.
3. To identify the challenges and limitations of integrating AI into EFL reading instruction.

4. Research Questions

This research seeks to answer the following research questions:

RQ1: How does the use of ChatGPT influence EFL learners' critical thinking skills through reading?

RQ2: How do EFL learners perceive the role ChatGpt in enhancing their critical thinking while engaging with reading materials?

RQ3: What are the main challenges and limitations of integrating AI into EFL context ?

5. Research Methodology

5.1 Research design

This research employs a descriptive mixed-method design to investigate the impact of AI-generative text on EFL learners' critical thinking skills at Biskra University. The qualitative data is used to provide an opportunity to gain in-depth insights into learners' experiences, perceptions, and engagement with AI tools (ChatGPT). while the quantitative data enhances the analysis by highlighting general patterns and trends.

5.2 Population and Sampling

The research will involve both EFL learners of Master two English language students and teachers of the Department of English at Mohammed Khider University of Biskra, Algeria. The study will comprise two samples, which will consist of 06 teachers and 25 learners. The latter will be selected using purposive sampling to ensure they are exposed to AI tools (ChatGPT) as part of their language-learning process.

5.3 Data Collection methods/tools:

- **Semi-structured Questionnaire:**

A semi-structured questionnaire will be used to gather learners' attitudes and perceptions of AI tools used and their impact on critical thinking development. The questionnaire will include closed-ended questions (e.g., Likert scale) to assess learners' overall satisfaction, as well as open-ended questions to capture more detailed feedback on their experiences. This will help to determine how learners perceive the effectiveness, challenges, and benefits of using AI tools for reading materials.

- **Unstructured Interview :**

This data collection tool will be conducted with 06 selected teachers to gain deeper insights into their perceptions, critical reading strategies, and challenges when introducing AI- generative text in the EFL teaching/learning context.

6. Significance of the Study

This study holds considerable importance as it investigates the impact of AI- generative text on the critical thinking abilities of EFL learners at the University of Mohamed Khidar, Biskra. This research delves into the intricate experiences of students as they engage with reading materials, illuminating their cognitive processes and interpretative skills. By employing qualitative techniques such as thematic analysis, the study effectively captures the perceptions, thought processes, and obstacles faced by learners when interacting with texts produced by artificial intelligence; Meanwhile, quantitative techniques, such as descriptive statistics and frequency analysis, are used to identify broader trends and measure the extent of learners' engagement and development in critical thinking skills.

Through an examination of students' feedback, reflections, and reading strategies, this research clarifies both the advantages and drawbacks of AI-generated content in promoting analytical and evaluative thinking. This mixed-method framework ensures that the outcomes of the study are not solely based on statistical data but are also rich in context, providing valuable insights for educators aiming to incorporate AI-driven resources into their reading curricula effectively.

Additionally, the research contributes to the ongoing discourse surrounding AI literacy in educational settings by offering a comprehensive view of how master two learners engage with ChatGPT. The insights gained from this study will assist educators, policymakers, and curriculum developers in formulating strategies that bolster critical reading skills while ensuring that AI tools enhance rather than obstruct deep understanding

and independent thought. Ultimately, this research highlights the necessity of a human-centered approach in AI-assisted education, advocating for active engagement with materials rather than mere passive consumption of AI-generated content.

7. Structure of the Thesis

This thesis starts with a general introduction that includes the background of the study, research problem, aims, questions, methodology and significance of the study. This thesis consists of two main parts: theoretical part and practical one. On one hand, the theoretical part consists of two chapters. The first chapter provides a general overview of Critical thinking and the second chapter is about Artificial intelligence (AI). On the other hand, the practical part consists of one chapter. This chapter discusses the methodology used in order to conduct the research as well as it displays, discusses, interprets the results of this study.

- **Chapter One**

The first chapter is devoted to discussing the role of Critical thinking in higher education and specifically in the EFL realm. Moreover, it tackles the main elements of critical thinking and the instructional Strategies for developing critical thinking. Furthermore, it talked about the assessment Critical Thinking in education.

- **Chapter Two**

The second chapter is about the use of AI in the foreign language education and its main tools used to learn language. Furthermore, it presents the use of ChatGPT in FL learning and particularly in reading. Also, this chapter tackles the main issues of using ChatGPT as reading assistant tool.

- **Chapter Three**

The third chapter is about the methodology used in order to conduct this study including the design, approach, population and sample, the data collection and the data analysis methods. Also, it is devoted to the analysis, discussion, and interpretation of this research's results.

Finally, a general conclusion in which it summarizes the main findings, contributions, limitations, implications, and recommendations for further research.

Chapter one: Critical Thinking

Introduction

This chapter presents a historical overview of critical thinking from both Islamic and Western perspectives, following a chronological approach. Rather than comparing which tradition is superior, it aims to acknowledge the valuable contributions of Muslim scholars within the broader development of critical thinking. The chapter also highlights several instructional strategies designed to foster critical thinking, with a particular focus on reading, given its essential role in enhancing comprehension, encouraging reflection, and promoting critical thought. Finally, it provides an overview of commonly used assessment instruments for evaluating critical thinking skills

1. Critical Thinking: Historical Overview

Critical thinking (CT) is not a new concept. One of the earliest documented examples of critical inquiry in Islamic history is found in the story of prophet Ibrahim (peace be upon him), who lived around 2000 BCE (about 4 000 years ago). He used reason and evidence to question his people's beliefs, showing independent thought and a search for truth—basic elements of critical thinking (Akhwan, 2020).

In the Islamic context, critical thinking is deeply embedded in the Quranic invitation to reason, reflect, and question. The Quran encourages believers to ponder creation, assess information critically, and avoid blind imitation, as seen in verses such as "And He is who grants life and deals death; and to Him is due the alternation of night and day. Will you not, then, use your reason?" (Quran, 23:80). And "And [remember:] whatever you are given [now] is but for the [passing] enjoyment of life in this world, and for its embellishment- whereas that which is with God is [so much] better and more enduring. Will you not, then, use your reason?"(Quran, 28:60) (Malik, 2017).

Throughout the Islamic intellectual heritage, scholars such as Imam Abu Hanifah (699-767M), Imam Ghazzali (1058–1111M) and Ibnu Rushd (1126-1198M) have explored reasoning and verification as essential tools in understanding religious texts and the world (Ashaari et al , 2012). They emphasized the necessity of reflective thought (tafakkur), ethical inquiry, and reasoned judgement as fundamental practices of a thoughtful believer.

In a similar vein, Western scholar John Dewey (1993), in his book *How We Think*, describes reflective thinking as a process that occurs in two stages. It begins when an individual encounters a problem or feels uncertain, which prompts them to pause and reflect. In the second stage, they search for information or ideas to address the problem and resolve their confusion (p. 12).

Building on Dewey's work, Ennis (1991, p. 6) defined critical thinking as "reasonable reflective thinking focused on deciding what to believe or do," a definition that remains influential in educational discourse. He later expanded this view by emphasizing the importance of critical thinking dispositions alongside cognitive skills, stressing the need for openness to diverse perspectives and awareness of factors such as gender bias and subject specificity in cultivating critical thinking (Ennis, 1996).

In 2006, Paul and Elder provided an in-depth exploration of critical thinking, positing that it constitutes a rational, dynamic, and proficient process that involves comprehending, applying, analyzing, synthesizing, and assessing diverse information derived from both experience and reflective thought.

Finally, Ghanizadeh (2017) examines the relationship among reflective thinking, critical thinking, and self-monitoring within the realm of higher education, proposing that these advanced cognitive skills are interrelated and play a significant role in fostering academic

success. This underscores the complex characteristics of critical thinking and its importance in diverse educational settings.

In conclusion, the body of research surrounding critical thinking presents a multifaceted and dynamic field, marked by a variety of definitions, teaching methodologies, and uses across various educational stages. The continuous discourse among scholars highlights the necessity for precise definitions of critical thinking and the formulation of effective teaching strategies to improve its implementation within educational environments.

2. Elements of Critical Thinking

One of the main perspectives on critical thinking, based on cognitive psychology, is that it involves the practice of cognitive abilities. This means that critical thinking is made up of a set of thinking skills, though the specific skills identified may differ from one author to another.

Based on Inda (2022), different scholars have proposed varied perspectives on the components of critical thinking. Bloom and Facione focused on cognitive skills; Bloom outlined six categories—**knowledge, comprehension, application, analysis, synthesis, and evaluation**—while Facione highlighted **interpretation, analysis, evaluation, inference, explanation, and self-regulation.**

In contrast, Paul and Elder emphasized eight "elements of thought," which reflect how reasoning is structured and processed. These elements include: **purpose, point of view, assumptions, implications, required information, inferences (Almulakhas), core concepts (Albaalu/Maana), and the central question being addressed (Aljawab/Annateeja)** (Inda, 2022).These elements lead to key questions that guide critical thinking:

Purpose	What am I trying to achieve or make happen?
Question at Issue	What is the central question I am trying to think through?
Information	What facts, data, or evidence do I need to figure things out?
Concepts	What are the organizing ideas, theories, or principles that influence my thinking?
Assumptions	What am I taking for granted that forms the basis of my thinking?
Interpretation	What are the connections I am making, and conclusions or solutions I am coming to?
Implications	What are the consequences that follow from my line of thinking?
Points of View	What are the other relevant perspectives that I need to consider?

Figure 1: Key question for Critical Thinking (Inda, 2022).

According to Paul, the elements of reasoning often overlap. For example, the **purpose** of our thinking, whether it's to form a belief or fulfil a need, is connected to **Anniyya (intention**). This, in turn, shapes our **point of view**, which Paul defines as an individual's personal collection of beliefs, desires, and values (**Al-imanu/fahmu, Azzannu, Alhukm).** Additionally, the subject matter—such as religion or mathematics **(Almawbduu/Albayaan)**—or the way we conceptualize information, plays a role in shaping our perspective. While these elements may often merge, Paul emphasizes the need to apply clear intellectual standards when engaging in reasoning (Inda, 2021).

3. Instructional Strategies for Developing Critical Thinking

Scholars have suggested different ways to improve critical thinking (CT), such as using real-life situations, open discussions, and activities based on exploration and investigation. Some models focus on processes like clarification, judgment, and additional strategic components (Fahim & Eslamdoost, 2014). Common classroom practices include research, reading, group discussions, and debates (Cambridge Papers, 2019). Among these, reading, writing, and questioning have been studied the most and have proven to be effective (Olson, 1984; Alexander et al., 2010; Aloqaili, 2012; AlSharadgah, 2014;

Tabackova, 2014; Nejmaoui, 2018). However, in this section, the focus will be placed specifically on reading, as it plays a central role in promoting comprehension, reflection, and the development of critical thinking skills.

3.1. Critical thinking and reading

Reading involves decoding written symbols with focus and interpretation to understand an author's message (Sari & Wardhani, 2020). It is essential for gaining information and expanding knowledge (Zhou, 2018), requiring accurate recognition of text functions (Anggraini et al., 2018). Reading various materials, such as reference books, can also enhance language skills (Darmuki et al., 2016). Overall, reading includes the ability to comprehend and interpret information.

Reading skills are divided into intensive and extensive reading (Sari, 2020). Intensive reading involves careful analysis of texts, focusing on word recognition, comprehension, and interpretation, which helps improve reading performance and reduce difficulties (Roberts et al., 2015). In contrast, extensive reading involves broad, comprehensive reading for general understanding (Boudah, 2018). Critical reading is considered a form of intensive reading, as it requires deep analysis and evaluation of texts to generate new understanding (Sari, 2021).

Implementing critical reading aims to identify effective strategies that support students in developing critical thinking while engaging with texts. According to Ko (2013), critical reading fosters students' ability to think clearly, analyze precisely, and assess content thoughtfully. Nasrollahi (2015) outlines ten essential steps in the critical reading process:

1. **Annotating** – making notes, circling key words, and writing comments.
2. **Previewing** – examining a text before fully reading it.

3. **Contextualizing** – placing the text within its cultural, historical, or biographical background.
4. **Outlining** – identifying the main ideas and structure of the text.
5. **Analyzing** – examining the main idea along with supporting details.
6. **Summarizing** – restating the main points in one's own words.
7. **Paraphrasing** – rephrasing the core ideas without changing their meaning.
8. **Synthesizing** – combining information from various sources to form new understanding.
9. **Questioning** – posing questions about the content and ideas in the text.
10. **Reflecting** – evaluating the logic, credibility, and emotional impact of the text (Sari, 2021).

3.2 Explicit Instruction

In integrating critical thinking (CT) into subject instruction, Ennis (1989) identifies two main approaches: explicit and implicit. The explicit, or "infusion" approach, involves directly teaching CT skills within the subject context, making the expectations clear to learners. The implicit, or "immersion" approach, embeds CT within content learning without overtly addressing CT concepts, assuming that students will develop these skills incidentally through deep engagement with the subject matter (Zhao, 2016).

Zhao (2016) highlights the importance of explicit instruction in fostering critical thinking (CT), especially in the context of reading. Drawing on Van Gelder (2005), Halpern (2007), and Swartz (2004), they argue that CT should not be left to emerge naturally; rather, it must be purposefully taught and practiced. Supporting this, empirical studies such as those by Abrami et al. (2008) and Bensley and Spero (2014) show that

direct teaching of CT skills—including argument analysis and critical reading—has a significant impact on learners' thinking and metacognitive abilities.

In EFL classrooms, this requires teachers to understand how language learning and CT development are interrelated, and to incorporate CT into reading activities through structured and guided practice. Zhao (2016) identifies three core areas in which CT can be explicitly developed during reading lessons: analytical skills (e.g., summarizing and recognizing rhetorical strategies), inferential skills (e.g., predicting content and interpreting tone), and evaluative skills (e.g., judging credibility and questioning the text).

To teach these skills effectively, Beyer (2008, as cited in Zhao, 2016) proposes a practical framework, which involves:

a) Providing detailed explanations and modelling.

b) Teaching when and how to apply CT skills.

c) Offering structured practice to foster independent use.

d) Giving continuous feedback and support.

Moreover, fostering CT in reading goes beyond cognitive skills—it also involves developing certain dispositions. These include openness to diverse views, questioning the author's stance, and avoiding personal bias. Teachers are encouraged to model these behaviours and reinforce their value throughout the learning process (Zhao, 2016).

3.3 Applying an Eclectic Approach in Reading Instruction

Zhang (2020), in her study, presents a three-stage framework for reading instruction: pre-reading, while-reading, and post-reading. Each stage is designed to guide learners in developing critical engagement with the text. As it is shown in the figure 2.

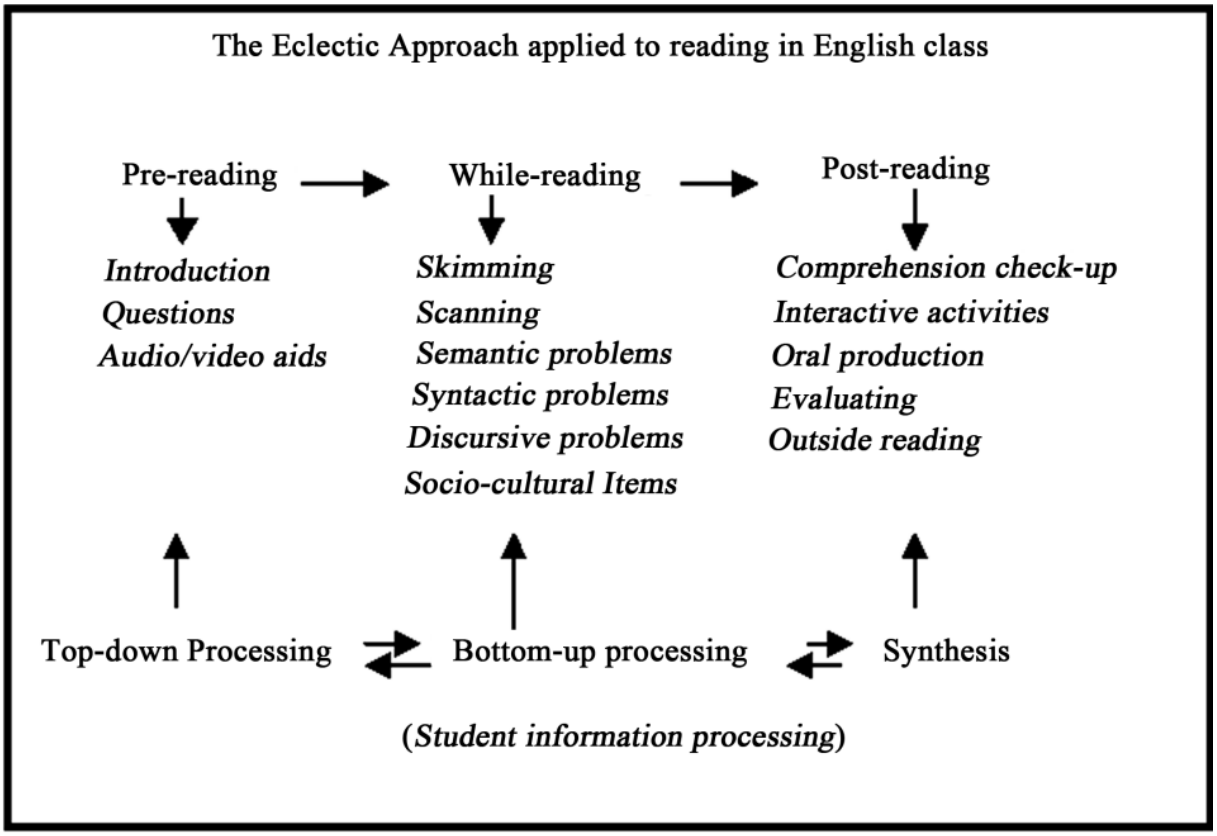

Figure 2. Eclectic model to teach English reading (Xiao, 2009; cited in Zhang, 2020).

3.3.1 Pre-Reading Stage

At this stage, students are encouraged to activate their prior knowledge and think ahead before reading. Zhang (2020), drawing on Nuttall (1996), refers to six types of classroom questions that promote different levels of thinking:

- **Literal comprehension –** answers are directly found in the text.
- **Reorganization or reinterpretation –** combining information from various parts of the text.
- **Inference –** understanding what is implied but not directly stated.
- **Evaluation –** judging the writer's effectiveness and intent.
- **Personal response –** reacting to the text based on one's own experience.

- **Understanding textual construction –** examining how meaning is conveyed through structure and cohesion.

During this stage, teachers are encouraged to use thought-provoking questions that tie into learners' experiences, stimulate curiosity, and elicit predictions. Effective questioning promotes not just comprehension but also higher-order thinking such as inference, judgment, and analysis (Zhang, 2020). For example, when teaching the text International Trade, students might be asked:

- What are the reasons for international trade?
- Why is it impossible for any nation in the world to be self-sufficient?
- Why does the writer mention these countries?

These types of questions support both literal and evaluative comprehension. As Slaght (2019) suggests, teachers should avoid rigid expectations of “correct” answers. Instead, they should remain open to diverse, authentic student interpretations that reflect critical engagement (Zhang, 2020).

3.3.2 While-Reading Stage

According to Zhang (2020), Xiang and Wang, (1999) state that this stage involves two main phases:

- **Initial reading—**using skimming and scanning to locate key information
- **Deeper reading—**that engages problem-solving at lexical, syntactic, discourse, and socio-cultural levels.

Discourse analysis here includes identifying how ideas are built and connected—such as through cause-effect, comparison, or generalization—and how the text is structured

(introduction, development, and conclusion). Students are encouraged to use questioning, analytical thinking, induction, and deduction to develop their critical thinking skills (Zhang,2020). To support socio-cultural understanding, teachers are also advised to provide relevant background knowledge, helping learners become more culturally aware. As Carrell and Eisterhold (1987) note, this helps build culture-specific schemata that enhance text interpretation beyond the classroom.

3.3.3 Post-Reading Stage

This stage focuses on reflection and evaluation. Students are asked to assess the writer's contribution and purpose by using textual evidence. Zhang (2020) provides an example question: "What does this writer contribute to your understanding of international trade?" Here, students must not only respond but also support their answers with reasoning and interpretation. Tang (2009) emphasizes that reading involves not just linguistic competence but also pragmatic skills to relate texts to real-world knowledge. These activities promote independent thinking, reduce reliance on the teacher, and help learners grow in their analytical abilities.

According to what was mentioned previously, it can be concluded that with the following notes. Based on the instructional strategies and frameworks discussed above, it becomes evident that fostering critical thinking through reading requires a multifaceted, intentional approach. Strategies such as explicit instruction, critical reading, and the use of eclectic models emphasize the need to guide learners beyond surface-level comprehension and toward deeper engagement with texts. Effective reading instruction not only improves linguistic competence but also cultivates cognitive and metacognitive skills essential for critical thinking. Therefore, integrating these strategies into EFL contexts can significantly

enhance students' ability to analyze, evaluate, and reflect on information—preparing them to be more thoughtful and independent learners.

4. Assessing Critical Thinking

As with its diverse definitions, the assessment of critical thinking reflects a range of theoretical orientations, measurement approaches, and practical challenges (Liu et al., 2024). Researchers have developed a variety of reliable and valid instruments aimed at measuring different dimensions of CT. These include standardized tests that evaluate reasoning, inference, argument analysis, and other related skills (Ennis, 1993; Facione et al., 1994; Yeh, 2001; Butler et al., 2012).

4.1 Standardized critical thinking tests

A range of widely used critical thinking tests which aim to assess critical thinking through various lenses. Although they often cover similar areas such as reasoning, analysis, and evaluation, they differ in what they emphasize. Some focus more on decision making and problem solving, while others integrate writing or encourage self-reflection and metacognitive awareness (Liu, 2024). Table 1 provides an overview of several objective measures of critical thinking, adapted from Dunn, Halonen, and Smith (2008).

Test	Format	Objectives
Watson-Glaser Critical Thinking Appraisal (1980)	*Multiple-choice*	Assessing inference, assumption identification, deduction, interpretation, and argument evaluation
Cornel critical thinking test, Forms X and Z (1985)	Multiple-choice	Form X: assessing grades 4-14 induction, credibility, observation, deduction, and assumption identification Form Z: assessing college students and adults' induction, credibility, prediction, experimental planning, fallacies, deduction, definition, and assumption identification
Ennis-Weir Critical Thinking Essay Test (1985)	Essay test	120Assessing the ability to get the point, see the reasons and assumptions, stating one's point, offering good reasons, seeing other possibilities, and responding to and avoiding equivocation, irrelevance, circularity, overgeneralization, credibility, and the use of emotive language in persuasion
Assessment of Reasoning and Communication (1986)	Open-ended Producing three short essays and three short speeches	Assessing college -level and probably other levels' social reasoning, scientific reasoning, and artistic reasoning
Critical Thinking Interview (1988)	One –to-one interview	Assessing college students and adults' displayed knowledge and reasoning on a topic of interviewee's choice with an emphasis on clarity, focus, credibility, sources, familiarity with the topic, assumption identification, and appropriate use of reasoning strategies
Critical Thinking Test (1989)	Multiple-choice items based on text readings	Assessing college students' conclusions identification, validity of reasons, representativeness of data, predictions' making, ability to notice alternatives, and ability to provide hypotheses
The California Critical Thinking Skills Test (1990)	Multiple-choice	Assessing college-level, adults and professionals' interpretation, argument analysis, appraisal deduction, mind bender puzzles, and induction
The California Critical Thinking Dispositions Inventory (1992)	Multiple-choice	Assessing college-level critical thinking dispositions
Cambridge Thinking Skills Assessment (1996)	Two parts: part one (multiple-choice, 15 items, 30 min); part two (essay test, one hour)	Part one: assessing postsecondary students' argument assessment Part two: assessing critical evaluation of an argument and further argumentation

Table 1: Overview of Standardized Tests for Assessing Critical Thinking Skills (adapted from Dunn, Halonen, & Smith, 2008)

These standardized tests offer different ways to measure critical thinking, depending on the context and goals. While multiple-choice tests are practical and easy to score, they might not fully capture deep thinking. In contrast, open-ended tests and interviews can show more detailed reasoning but are harder to score consistently. Choosing the right tool depends on the type of thinking being assessed and the characteristics of the learners involved.

Conclusion

This chapter has provided an in-depth exploration of critical thinking (CT), tracing its roots, defining its components, and examining how it can be nurtured and assessed within educational contexts. Beginning with a historical overview, the discussion highlighted the deep foundations of critical thinking in both Islamic and Western traditions. Next, it discussed the core elements of critical thinking, including cognitive skills and components outlined by scholars such as Bloom, Facione, and Paul and Elder. These elements guide how individuals interpret, analyze, and evaluate information. Following this, several instructional strategies for promoting critical thinking were introduced, particularly in reading-based contexts. These methods aim to develop learners' ability to think deeply, ask meaningful questions, and engage with texts critically.Finally, the chapter covered assessment tools used to measure critical thinking, acknowledging the complexity of evaluating such a multifaceted skill.

In summary, critical thinking is a vital educational goal that requires clear understanding, purposeful teaching, and thoughtful assessment to support learners in becoming reflective and independent thinkers.

Chapter two:
Artificial Intelligence

Introduction

The following chapter begins by examining the integration of AI in EFL education. It then explores various AI applications, such as chatbots and speech recognition technologies, within the EFL context. Next, an overview of ChatGPT is provided, highlighting its role in EFL instruction and its effects on critical thinking. The chapter also identifies the key competencies required to use ChatGPT effectively. Finally, it addresses the challenges and considerations associated with implementing ChatGPT in the EFL domain.

2.1. Artificial Intelligence (AI) in Foreign Language (FL) Education

In the evolving landscape of education, the integration of Artificial Intelligence (AI) represents a transformative shift, bringing a new era in learning and teaching methodologies. The term "artificial intelligence" was introduced in 1955 by John McCarthy, who defined it as "making a machine behaves in ways that would be called intelligent if a human were so behaving."(Cope et al, 2020). According to Shapiro (2003), artificial Intelligence (AI) is a discipline within computer science and engineering that focuses on understanding intelligent behaviour through computational methods and on constructing systems that can demonstrate such behaviour.

The integration of Artificial Intelligence (AI) in education goes beyond being just a new technology; it changes the learning experience at a deeper level. AI not only improves traditional teaching methods but also offers personalized learning and supports students with different needs. It also helps develop important skills like critical and computational thinking, which are closely related to areas like machine learning and educational robotics (Walter, 2024).

In the domain of English as a Foreign Language (EFL), Artificial Intelligence (AI) has been increasingly applied to support both language instruction and acquisition. AI offers promising capabilities such as offering customized learning, facilitates language assessment, and enhancing overall language proficiency (Fidan et al, 2023).

These technological advancements play a crucial role in meeting the urgent demand for fostering higher-order cognitive abilities, particularly critical thinking, which is vital for students to manage the complexities of contemporary life (Aljanabi et al., 2023; cited in Liu et al, 2024). As the world keeps changing fast, critical thinking helps students understand large amounts of information, make smart choices, and solve difficult problems caused by rapid advances, especially in AI (Li et al., 2024; Liu & Wang, 2024). By learning to think critically and adjust to new situations, students are better prepared to handle the challenges and uncertainties of modern life (Yang & Zhao, 2024).

Using AI in education has many benefits, but it also comes with challenges. It needs careful planning and should consider the way society is structured. To use AI well, students need more than technical skills—they need creativity and the ability to use technology wisely. This means changing how we teach, making learning more active, flexible, and focused on students (Chiu et al., 2023; cited in Walter, 2024).

2.2. The Main Functions of AI in Education

The smart part of AI is not really in the math or the algorithms, but in how it can name many things in the world. This process is called namability. The way AI works depends not just on the data and the steps it uses, but also on how the data is organized and understood. This idea, called ontology, comes from science, social studies, and philosophy, not only computer science. But sometimes, AI focuses too much on algorithms and forgets about the meaning behind the data (Anderson, 2008).

After something is named, AI can count and calculate things very fast. Another power of AI is using sensors to collect information automatically. Also, AI can show human meaning through tools like text, images, voice, and sound. But some human feelings and senses cannot be fully shown by machines. They are shared using simple labels instead (Cope et al, 2020).

Cope, Kalantzis, and Searsmith (2020) outline four main ways artificial intelligence (AI) transforms human meaning into digital form. These are namability, calculability, measurability, and representability.

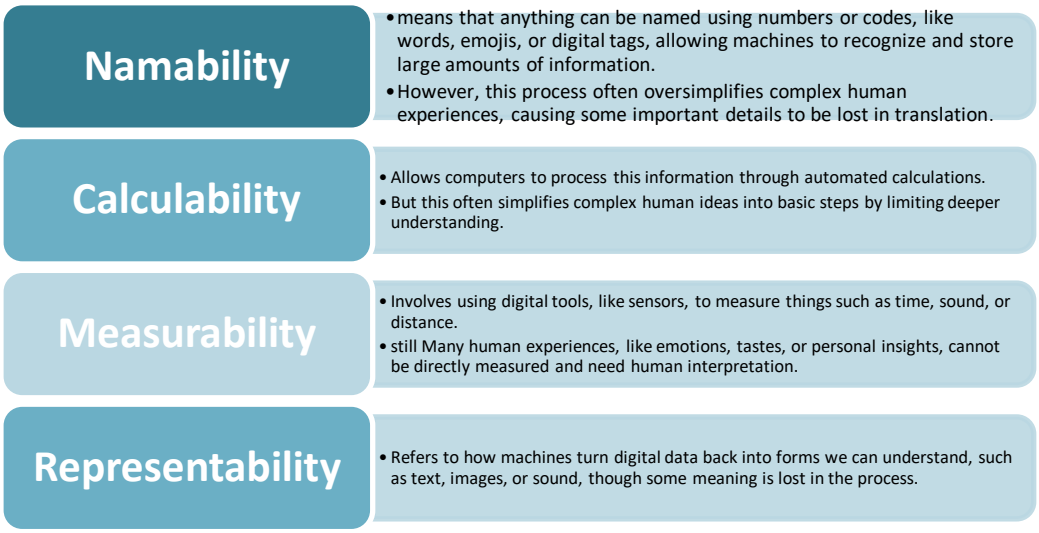

Figure 3: "transpositional grammar" (Cope & Kalantzis 2020).

Even with advances in technology like machine learning and deep learning, AI still depends on these four processes. It can find patterns and make predictions, but it does not think or understand like a human. It works by following programmed rules and analyzing data.

In education, this means that while AI can help teachers and students for example, by providing feedback or organizing information, it cannot replace the human role in learning. Teachers use empathy, experience, and judgment, which machines cannot copy. Therefore,

it is important to use AI as a helpful tool, but not to expect it to fully take over complex human tasks like teaching or understanding students' needs (Cope, 2020).

2.3. AI Tools Used in Foreign Language (FL) Learning

AI has changed how foreign languages are taught and learned. It gives new and easy ways to help students learn the language better. For example, AI can detect pronunciation errors (Humardhiana, 2022; Indari, 2023), grammar, and spelling (Alharbi, 2023; Park, 2019). It also gives quick feedback to learners (Zaghlool & Khasawneh, 2023). AI tools like speech recognition, translation programs, and chatbots can make learning more helpful and interesting.

2.3.1. Speech Recognition Technology

known as Automated Speech Recognition (ASR), is a type of AI software that can transform human speech into written words. ASR helps foreign language learners in many ways and can make learning better. Studies have shown that this technology can help students improve their pronunciation and accent by comparing their speech with native speakers and giving quick feedback and corrections (Ngadiso & Sutomo, 2024). Foote and McDonough (2017) said that ASR technology can help second language learners improve speaking skills, including their pronunciation, accent, and fluency. ASR gives personal feedback to each learner based on their own problems with pronunciation (Sun, 2023). It also supports fluency by guiding correct pronounciation. One example of ASR is ELSA Speak, which is an AI-based app for learning English. Akhmad and Munawir (2022) said that using ELSA Speak can help students get better at pronunciation. In short, ASR is useful for learning pronunciation because it can find the learner's problems and give personal help based on how they did before.

2.3.2. Chatbots

A chatbot is a computer program that uses artificial intelligence and is part of how humans and computers interact (Bansal & Khan, 2018). According to the dictionary, a chatbot is a program made to have conversations with people, usually online (Lexico Dictionaries, 2019). It uses Natural Language Processing (NLP) and sentiment analysis to talk with people using text or speech (Khanna et al., 2015). Chatbots are also called smart bots, digital assistants, or interactive agents (Adamopoulou & Moussiades, 2020).

Chatbots help language learners do many tasks and practice different language skills. Learners who had good experiences using chatbots to learn English were interested in using them for learning other languages too (Annamalai et al., 2023). Chatbots can also make learners more motivated and help them try harder because they are interactive. According to Kim et al. (2021), chatbots also help learners work on their pronunciation, stress, and intonation. Chatbots can support listening and reading too by using both text and computer-generated speech. In short, chatbots can help students get better in all four language skills because they interact with learners and understand what each learner needs.

2.3.3. Machine Translation (MT) Tools

Foreign language learners often have problems when learning a second language. Sometimes, they do not understand a word, a sentence, or even a whole paragraph. To solve this, they try to translate the text into their first language or another language they know well. Most of the time, they use machine translation (MT) tools to help them understand the text. MT is when computer software is used to translate languages, and it works on both computers and smartphones (Alhaisoni & Alhasysony, 2017). Research has shown that using MT in English learning can be helpful. For example, Lee (2019) found that EFL students used MT to choose better words and write more natural sentences.

MT tools have shown many benefits for learning a foreign language. First, MT can help EFL learners become more aware of grammar and vocabulary. It helps them notice and fix their mistakes, which can reduce grammar and word errors and improve their writing (Lee, 2019; Niño, 2008). Second, using MT helps learners see new words in the translated text, which can grow their vocabulary and make them more fluent. For example, DeepL Translator is a good MT tool that works well for translating simple words, phrases, and even special types of texts in different situations (Schmidt & Strassner, 2022). In short, by looking at the translated text, learners can correct their grammar mistakes and learn new grammar patterns.

2.3.4. Large Language Models (LLMs)

Using large language models (LLMs) in foreign language learning has been helpful in making the learning experience better. A large language model is a kind of AI that uses deep learning and a lot of data to understand, create, and guess new content (Sarno, 2023). In simple words, LLMs train computers to process and generate language in similar way to how the human brain works. Bonner et al. (2023) said that LLMs are now one of the most powerful tools helping in language teaching and learning (p. 24). LLMs can help language learners complete different tasks more easily. For example, they can quickly make summaries of texts, giving learners a good example of how to write a summary and using language that matches their level (Bonner et al., 2023). In addition, ChatGPT, as an LLM, can make it easier for students to access information, develop writing skills and enhance subjective learning (Farrokhnia et al., 2023). ChatGPT and other LLMs make it easy for users to get information through conversational interaction, learners can get answers on many topics in different situations.

To sum up, EFL learners had good experiences using AI tools like ASR, machine translation, chatbots, and LLMs. Each tool contributed meaningfully to specific language skills.

2.4 ChatGPT as an AI Tool in Education

ChatGPT is a generative AI chatbot released by OpenAI in November 2022. It is one of the most advanced AI chatbots and has started a big change in education by introducing a new way of teaching and learning. Its large language models let it offer a level of personalized learning we've never seen before (Aristanto et al., 2023).

2.4.1 Personalized Learning and Engagement

ChatGPT tailors its replies to each student's level and interests, giving on demand clarifications, extra examples, or quiz questions. This keeps learners motivated and actively involved in their own learning (Pham & Le, 2024). For students with special needs, ChatGPT can rephrase difficult terms or offer extra support, making learning more accessible without always needing a teacher's help (Walter, 2024). This makes the classroom more active and interesting, where students take part in their learning instead of just listening (Steele, 2023).

2.4.2 Essential Skills for using ChatGPT :

Walter (2024) argues that effective ChatGPT use requires three core skills:

2.4.3.1 AI Literacy : Understanding ChatGPT's strengths and limits, including knowing when its answers may be incorrect. Walter (2024) explains that AI literacy goes far

beyond just clicking on an AI tool, Learners must:

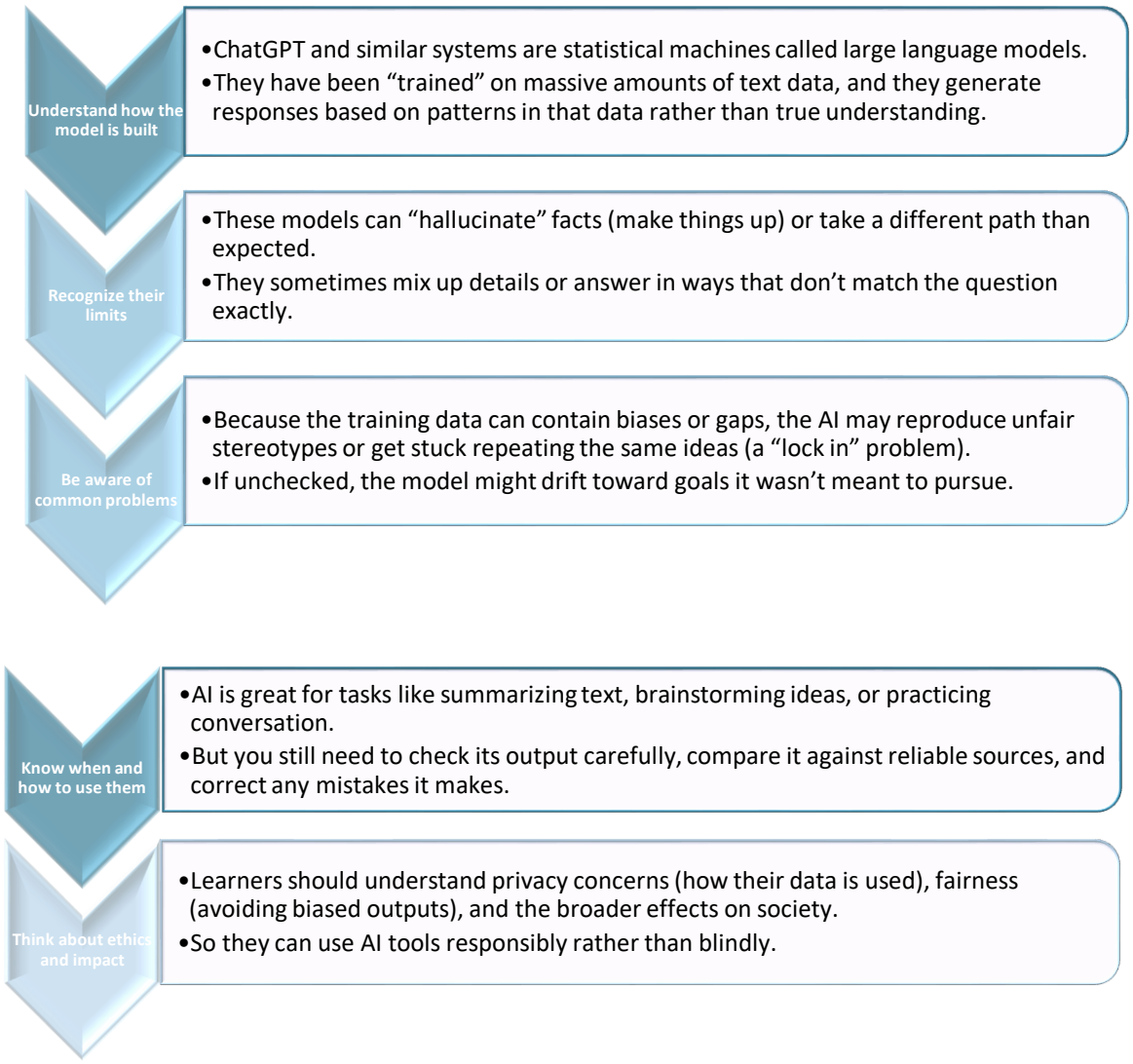

Figure 4: AI Literacy required for using ChatGPT (walter, 2024).

2.4.2.2 Prompt Engineering: This skill requires writing clear, specific "prompts" (the instructions or questions you give the AI) to get useful responses.

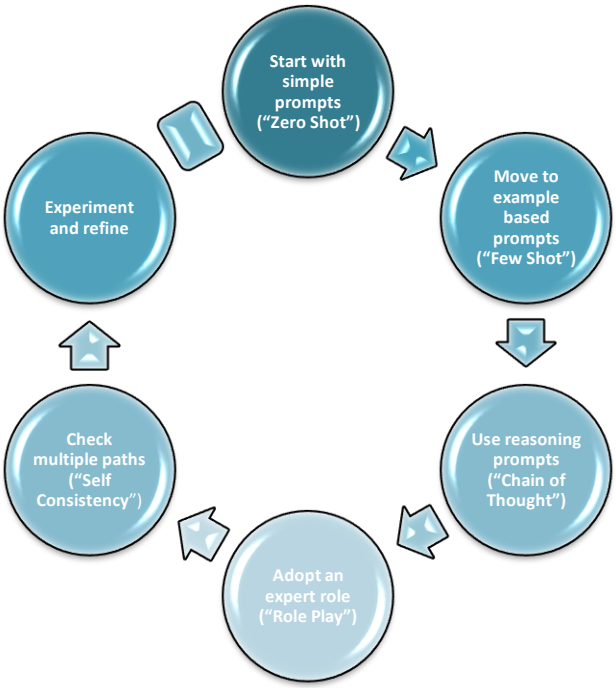

Figure 5: Prompt Engineering steps (cited in Walter, 2024)

- **Start with simple prompts** ("Zero Shot"): Just ask the AI directly (e.g., "Translate this sentence").
- **Move to example based prompts** ("Few Shot"): Show one or more examples of the kind of answer you want, so the model can match the style or level (e.g., "Here is a good summary—now do the same for this text").
- **Use reasoning prompts** ("Chain of Thought"): Ask the AI to explain its steps ("Explain step by step how to solve this grammar problem"). This often yields clearer, more logical answers.
- **Adopt an expert role** ("Role Play"): Tell the AI to answer as if it were a specialist ("Imagine you're a language teacher, how would you correct this pronunciation?").
- **Check multiple paths** ("Self Consistency"): Get the model to propose several different solutions and then decide which makes the most sense. This reduces the chance of accepting a single flawed answer.

- **Experiment and refine:** Small wording changes can make a big difference. Classroom exercises where students compare prompts side by side help build this skill (cited in walter, 2024).

2.4.2.3 Critical Thinking:

Walter (2024) stresses the role of critical thinking for enables learners to engage with AI as a collaborative learning tool rather than a shortcut. In practice, this means evaluating ChatGPT's suggestions, cross checking facts, and choosing which ideas to keep.

- **Prompt scaffolding:** Teachers give guiding hints or ask follow up questions to help students form better prompts in the first place.
- **Explicit reflection:** After the AI gives an answer, students discuss where it might be wrong, misleading, or incomplete.
- **Praise and feedback:** Instructors highlight good uses of AI—points where the student chose a strong prompt or spotted an error—and gently correct missteps.
- **Modifying activities:** Teachers suggest new ways to approach the same task, showing how different prompts produce different results.
- **Direct instruction and modeling:** Instructors demonstrate AI's common mistakes (made up facts, misinterpretations) and walk through the process of verifying information, so students see exactly how to evaluate AI output.

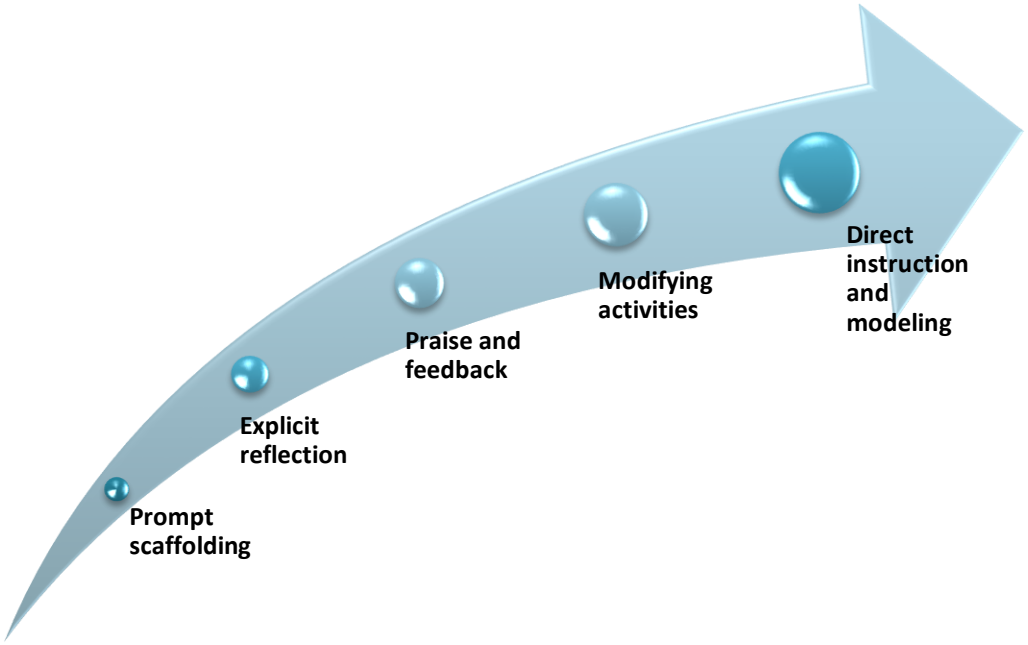

Figure 6: Process of dealing with ChatGPT in critical way (cited in walter, 2024).

By building these three skills: understanding how AI works, knowing how to give good instructions, and always thinking carefully about its answers; students can use ChatGPT and other tools to learn better, instead of just letting the AI think for them.

2.4.3 ChatGPT in English Foreign Language (EFL) Context

In the context of foreign language (FL) education, ChatGPT has the ability to transform the traditional ways of learning a language and bring up new ways of solving FL educational problems. ChatGPT can help foreign language learners and teachers. It gives them many tools that support learning and teaching in a more comfortable and effective way. Furthermore, ChatGPT can change lessons to fit each student's way of learning, speed, and preferences. It looks at student data and uses smart systems to make learning match their needs and help them reach their goals. This makes learning more active and interesting, and students take part more instead of just listening (Steele, 2023). It can also explain words clearly and give useful examples (Ghafar, 2023). Using ChatGPT in EFL classes can help teachers make lessons by giving real language materials (Baskara &

Mukarto, 2023). Also, teachers can use ChatGPT to help their L2 students have useful talks by making questions about certain topics or events (Kasneci, 2023).

Further, AI gives learners real-life language situations that make learning more interesting and creative. Tools like chatbots let students talk in real time, similar to how they would speak with native speakers (Bailin, 2014). Using ChatGPT helps students be more creative with language. It supports them in using different sentence forms, word choices, and ways of speaking. The tool also helps them understand the language better and use it in more flexible ways. That's why it is useful for improving real communication (Ali, 2020).

Recent studies also support the idea that ChatGPT can help EFL learners improve their reading and critical thinking skills. For example, El Hassan and Alsalwah (2025) found that when students used ChatGPT to understand reading texts, it helped them learn new vocabulary, understand the main ideas better, and stay more engaged with the content. This shows that ChatGPT can support deep thinking and comprehension when learners use it independently. The study also mentioned the importance of guiding learners to use AI tools responsibly, which is important for self-study settings too.

2.5 Fostering critical thinking with AI

In AI education, critical thinking means being able to understand information, look at different ideas, and give clear, logical opinions while using AI tools (walter, 2024). This skill is becoming more important as AI is used more in life and work. In the educational context, AI is not only used to teach, but also to help students ask questions, study information, and think more deeply about what they learn (van den Berg & du Plessis, 2023). Using AI in education gives special chances to help students build critical thinking. AI can show students hard problems and situations that need more than just remembering

facts or simple understanding. These systems can push students to use advanced thinking skills, like analyzing, combining ideas, and judging information, to solve these problems.

Also, AI can give each student a learning experience that matches their way of learning and level. This helps students stay interested and also pushes them to think more deeply. By giving tasks that are just right for their level, AI can support their learning and help improve their critical thinking (Muthmainnah et al., 2022).

Studies have shown that AI tools can help students improve their critical thinking by giving quick and personal feedback, keeping them involved, and helping them think more deeply. For example, a study by Fathi, Rahimi, and Derakhshan (2024) showed that using AI in conversations helped EFL students improve their speaking and made them more willing to talk, which is related to critical thinking. Another study by Wang and Xue (2024) looked at how AI chatbots helped Chinese EFL students get more involved in learning. The results showed that the chatbots not only got students to take part more but also helped them think more deeply by asking questions, looking for explanations, and having thoughtful talks. In the same way, Derakhshan and Ghiasvand (2024) found that AI tools can support language learning by giving a helpful and interactive space that encourages critical thinking (Liu & Wang, 2024).

AI tools have been found to help solve some problems of traditional teaching methods. For example, AI can give students personalized learning that fits their different needs and learning styles, which is especially useful in large, diverse classrooms. By giving instant feedback and support that adjusts to each student, AI can help close learning gaps and improve critical thinking skills over time (Agustini, 2023). The different features of AI, like real-time feedback and tailored learning paths, are directly related to improving teaching and learning by offering personalized experiences (Yang & Zhao, 2024). For

example, adaptive learning platforms change the level of difficulty depending on how well a student is doing. This helps each student learn at their own speed while still staying interested and challenged. Research by Liu and Ma (2023) showed that these personalized learning systems help students think more deeply and develop higher thinking skills.

2.6 AI Challenges and Cautions

While AI tools like ChatGPT offer many benefits for teaching and learning, there are also important challenges and risks to consider (Adiguzel et al., 2023; Ji et al., 2023; Ng et al., 2023). These issues need to be addressed to ensure AI is used effectively and responsibly in education. For example, ChatGPT can sometimes generate answers that sound correct but are actually incorrect. This means students must check the information using reliable sources. Another issue is the digital divide—some students may not have access to stable internet or digital devices, which can create inequality in learning opportunities.

Moreover, teachers themselves need time and training to learn how to use AI tools and guide students properly. Another concern is that some students may become too dependent on AI tools, using them as shortcuts instead of thinking critically or completing tasks independently. In many cases, students may not realize that AI tools can also make mistakes or provide inaccurate responses (Cope et al, 2020).

Although AI can support learning by processing large amounts of information and offering quick responses, it cannot replace human intelligence. It lacks true understanding of meaning and context. As Cope et al (2020) emphasizes, AI should be used to support and improve teaching, not to replace it. The goal is to combine the strengths of both AI and human teachers to create a better learning experience.

Conclusion

To conclude, AI is changing many parts of our daily lives and is now transforming higher education by providing new ways to learn foreign languages. Using ChatGPT in the context of EFL education presents a transformative opportunity for developing learners' critical thinking, particularly through reading engagement. ChatGPT offers a wide range of services that can support EFL learners in processing texts more deeply, asking reflective questions, and engaging in critical dialogue, skills that are essential for fostering critical thinking. The literature has highlighted the role of AI tools, especially ChatGPT, in promoting cognitive engagement and helping learners become more active and analytical readers. Although these studies were conducted in varied contexts they collectively point to the positive influence of ChatGPT on EFL learners' critical thinking, particularly through reading. However, none of the reviewed studies focused specifically on the use of ChatGPT to promote critical thinking through reading among EFL learners in the Algerian context. Thus, the present study aims to fill this gap by exploring how AI, particularly ChatGPT, influences the development of critical thinking skills through reading practices among Master's students in Algeria. By doing so, this research contributes to a growing body of literature that seeks to understand the educational impact of AI technologies in diverse linguistic and cultural settings.

Chapter Three:
Fieldwork and Data Analysis

Introduction

This chapter presents the methodological framework used in this study. It outlines the methods, approaches, context, and participants engaged in this research in order to collect, analyse, and discuss the data concerning the role of AI technologies—particularly ChatGPT—in assisting EFL learners with reading processes to foster their critical thinking skills. The study investigates how using ChatGPT can help learners engage more deeply with texts through questioning, summarizing, and exploring meaning beyond the surface. Also, it highlights the main findings and their relevance to the research question and objectives.

3. Research Methodology

3.1 Research Design

This study adopts a descriptive mixed-methods design aimed at understanding how ChatGPT can be used to support critical thinking in EFL learners during reading-related tasks. By gathering insights from both students and teachers through students' questionnaire and teachers' interview, the research explores perceptions, experiences, and potential shifts in learners' analytical reading skills. The qualitative aspect allows for an in-depth understanding of participants' perspectives and experiences, while the quantitative data enhances the analysis by highlighting general patterns and trends.

3.2 Research Approach

This study follows a mixed–methods approach, relying primarily on qualitative data. Open-ended responses are used to gain insight into how participants perceive and interact with AI tools in academic reading contexts. The qualitative approach enables the researcher to explore:

- How students evaluate their own critical thinking during reading,
- How they engage with ChatGPT in relation to reading and analysis tasks,
- And how teachers perceive ChatGPT's influence on learners' thinking and performance.

Although the focus is on qualitative data, simple descriptive statistics (e.g., frequency counts and percentages from closed-ended questions) are used to support the qualitative interpretation.

3.3 Population and sampling

The study was conducted at the University of Mohamed Khider – Biskra, specifically in the Department of English. The participants belong to the Science of Language specialty. The suitable population for the current research was Master two students because they are more aware of using AI tools specifically, ChatGPT besides they are most concerned with improving their critical thinking skills. As a result, the target sample for this research was 25 master 2 students of English at the University of Mohammed Kheider Biskra. In addition, an interview was conducted with 6 teachers of English for more insightful information on the following study.

3.4 Data Collection Tools

The current research employs common mixed-methods tools, including a semi-structured questionnaire and unstructured interview. The data was collected to gather both teachers and students' perspectives and opinions on the use of AI tools, more specifically ChatGPT to assist students to foster their critical thinking. Therefore, an online questionnaire was conducted to gather data from students' perceptions besides an interview designed for teachers of English to gain more information on the impact of artificial intelligence tool in educational context.

3.4. Data Collection Procedure

3.4.1. Students' Questionnaire

3.4.1.1 Description of Students' Questionnaire

The questionnaire was addressed to Master two EFL students (science of the language) at University of Mohamed Kheider Biskra. A sample of 25 out of 145 Master two students were selected to contribute in this study by answering the online questionnaire. Before full-scale distribution, a pilot study was conducted with 8 participants to assess the clarity and relevance of both questionnaires. Minor modifications were made based on initial feedback. The student questionnaire was administered online via Google Forms, and shared with participants through digital platforms. Therefore, the questionnaire‘s primary questions consisted of 16 questions, divided into four sections:

- Background Information: This section aimed to collect demographic data such as age, gender, and self-reported English proficiency. These variables provide context for understanding how personal characteristics might influence students' use of ChatGPT and their critical thinking development.
- Self-Assessment of Critical Thinking Skills: This section was designed to assess students' perceptions of their own critical thinking abilities when reading English texts. It included items related to identifying main ideas, verifying information, and considering multiple perspectives, which are key indicators of critical reading and analysis.
- Experience with ChatGPT: The purpose of this section was to explore students' habits and practices when using ChatGPT for reading and analytical tasks. Questions focused on how frequently they use the tool, whether they check the accuracy of its information, and how they engage with the content it provides.

➢ Perceived Impact of ChatGPT on Critical Thinking: This final section aimed to evaluate how students perceive the influence of ChatGPT on their critical thinking development. It addressed areas such as deeper textual engagement, improvement in independent analytical thinking, and the risks of over-reliance on AI tools.

Moreover, the questionnare included both closed-ended items (Likert scale, multiple choice) and open-ended questions to capture both measurable trends and detailed personal reflections on how students interact with ChatGPT in reading contexts. Moreover, the creation of the questionnaire was based on specific questions to cover all the crucial points that address the main purpose of the current study.

3.4.1.2 Analysis of the students' Questionnaire

Section One: Background Information

Question 1: Age Group

Age Range	Percentage
22–27	92%
28 and above	8%

Table 2: Age Distribution of Participants

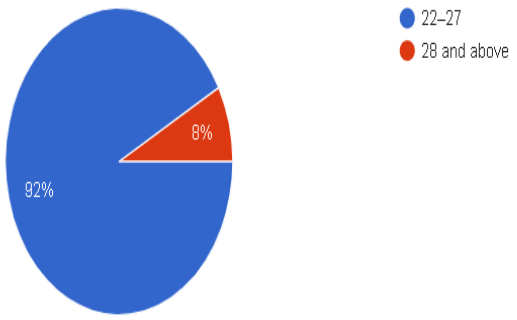

Figure 7: Age Distribution of Participants

The participants in this study were 25 Master students enrolled in the department of English at the University of Mohamed Khider – Biskra. The majority of them (92%) were between the ages of 22 and 27, while only 8% were aged 28 or above. In terms of gender, the sample was predominantly female (96%), with only 4% male participants.

Question 2: Gender

Gender	Percentage
Female	96%
Male	4%

Table 3: Gender Distribution of Participants

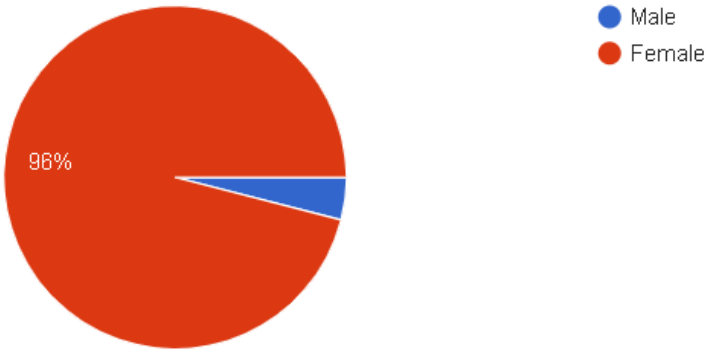

Figure 8: Gender Distribution of Participants

As for the students' self-assessed level of English proficiency, more than half (56%) considered their level to be Good, while the remaining 44% rated it as Average. Notably, none of the participants described their English level as Weak, suggesting that all participants had at least a moderate level of confidence in their language skills.

Question 3: Self-Reported English Proficiency

Proficiency Level	Percentage
Good	56%
Average	44%
Weak	0%

Table 4: Self-Reported English Proficiency

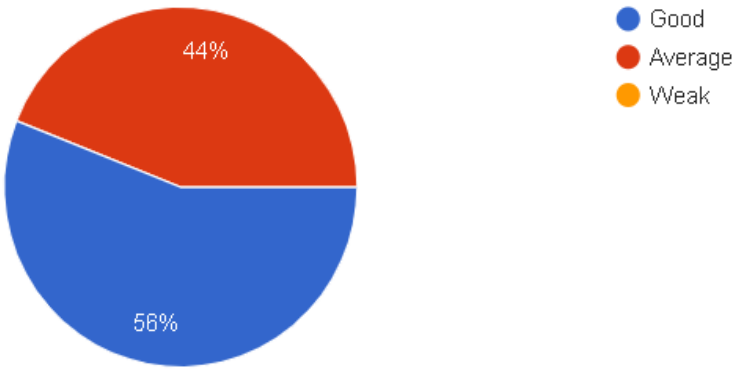

Figure 9: Self-Reported English Proficiency.

This background information provides a clear profile of the target population, which is mostly composed of young, female learners with a moderate to strong command of English. These characteristics may influence the way students engage with reading activities and interact with AI tools such as ChatGPT.

Section 2: Self-Assessment of Critical Thinking Skills

In this section, students were asked to self-evaluate specific critical thinking behaviors they perform while reading English texts. Their responses reflect how they perceive their own ability to analyze, verify, and consider alternative perspectives.

Read each sentence and choose how much you agree with it when you read or analyze English texts.

Statement 1:"I am good at identifying the main ideas in a text."

	Response Option	Number of Students	Percentage
1	Strongly Agree	9	36%
2	Agree	9	36%
3	Neutral	8	32%
4	Disagree	0	0%
5	Strongly Disagree	0	0%

Table 5: Identifying Main Ideas

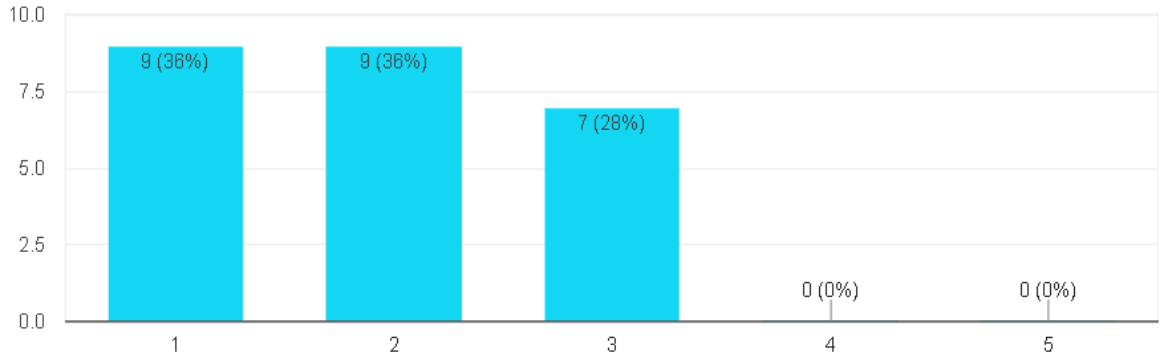

Figure 10: Identifying Main Ideas

The majority of students (72%) either strongly agreed or agreed that they are good at identifying the main ideas in a text, a skill that is foundational to effective reading and critical thinking. A notable portion (32%) chose a neutral position, which may suggest uncertainty or lack of confidence in their reading abilities. However, the absence of disagreement indicates an overall positive self-perception in this area.

Statement 2: I check and verify information before accepting it as true.

Response Option	Number of Students	Percentage
Always	10	40%
Often	10	40%
Sometimes	6	24%
Rarely	0	0%
Never	0	0%

Table 6: Participants' Responses to Verifying Information

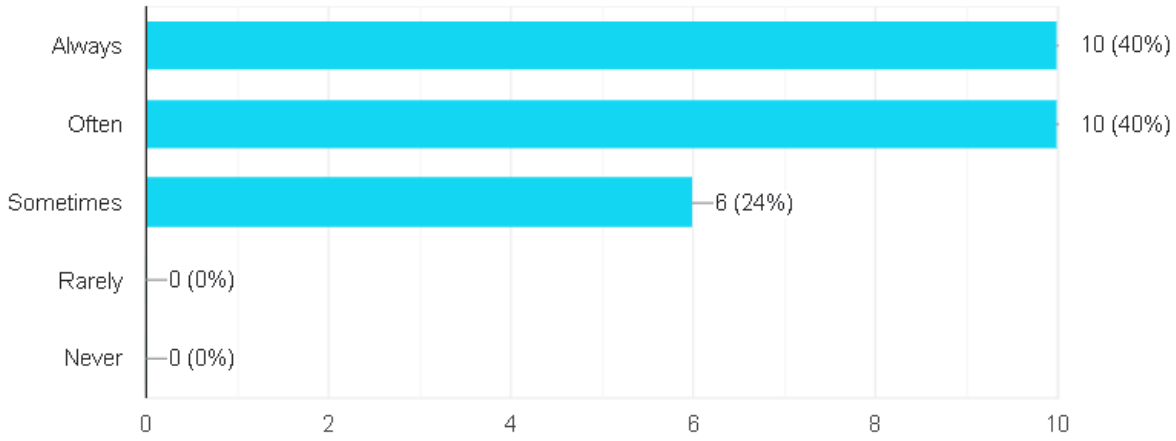

Figure 11: Participants' Responses to Verifying Information

A significant majority of students (80%) reported that they always or often verify information before accepting it as true, which shows a clear awareness of importance of ensuring that information is correct and trustworthy, as well as the habit of thinking carefully before believing something, rather than accepting it immediately, both of which are key features of critical thinking. An additional 24% selected "sometimes," indicating that some students apply verification inconsistently. The complete absence of "rarely" or "never" responses reflects a generally strong attitude toward information evaluation.

Statement 3: I consider other opinions and different points of view when reading a text.

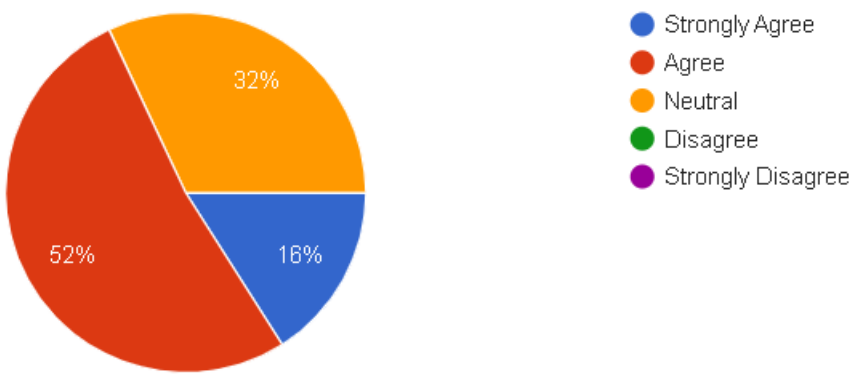

Figure 12: Participants' Responses to Considering Different Viewpoints in Texts

More than half of the students (68%) said they agree or strongly agree that they think about other opinions when reading. This means many of them try to be open-minded and engage in deeper analysis. However, 32% chose "neutral," which might mean they are not used to doing this or are not sure about it. Helping students to focus more on different points of view could make their reading and thinking stronger.

In general, the results show that most students believe they apply some important critical thinking skills when reading, such as identifying main ideas, checking information, and considering different viewpoints. However, there remains a need to foster more consistent critical thinking habits, especially in building more consistent habits.

Section tree: Experience with ChatGPT

In this section, students were asked about their habits when using ChatGPT for reading and analysis tasks. The results show that many students use ChatGPT regularly, but their ways of using it are not the same.

Question 1: When you have a reading or analysis task, do you usually use AI tools like ChatGPT first, or do you try to work through the task on your own?

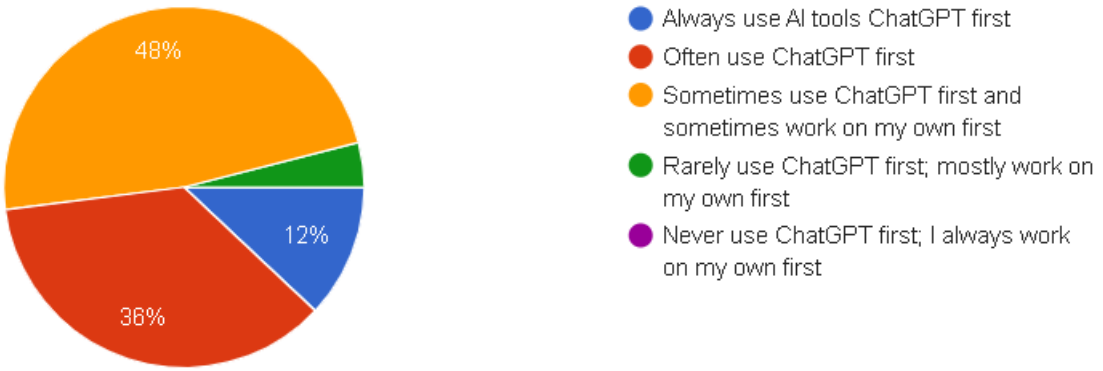

Figure 13: Participants' Preferences for Using AI Tools Like ChatGPT vs. Working Independently

Almost half of the students (48%) said they sometimes use ChatGPT first and sometimes start on their own. 36% often use ChatGPT first, and 12% always depend on it at the beginning. Only one student (4%) rarely uses it first, and no one said they never use it. This shows that most students use ChatGPT at the start of their work, but some still try to think on their own before using the tool.

Question 2: How often do you use ChatGPT for reading and analyzing English texts?

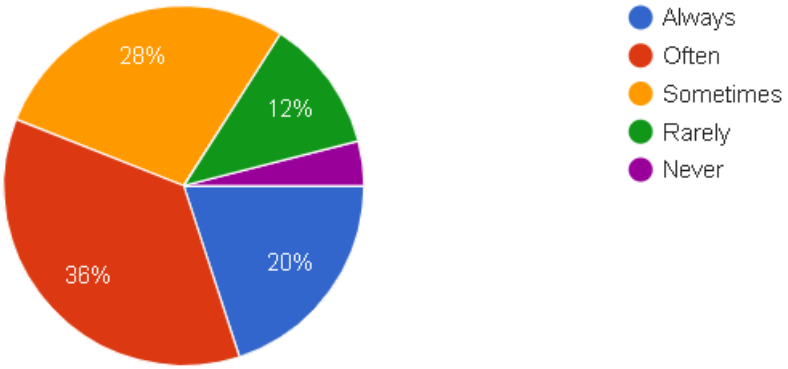

Figure 14: Frequency of ChatGPT Use for Reading and Analyzing English Texts

Most students (84%) use ChatGPT either always, often, or sometimes for reading and analysis. The highest group is those who said often (36%), followed by sometimes (28%) and always (20%). Only 3 students (12%) said rarely, and 1 student (4%) said never. This means ChatGPT is used regularly by most of the students in their reading tasks.

Question 3: When you use ChatGPT for reading or analysis tasks, do you check whether the information it provides is correct, or do you accept it without checking?

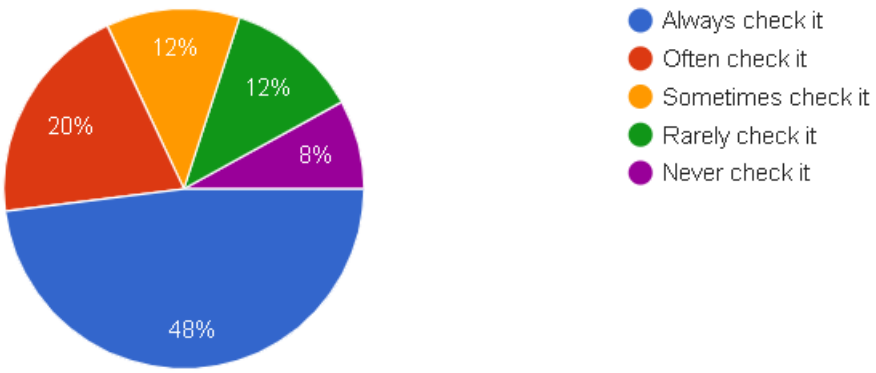

Figure 15: Participants' Verification of ChatGPT-Generated Information in Reading and Analysis Tasks.

Almost half of the students (48%) said they always check the information ChatGPT gives, and 20% said they often do. This shows that many students are careful and try to make sure the information is correct. However, 32% (the rest) are not consistent: 12% sometimes check, 12% rarely, and 8% never. This means that a few students may accept answers without thinking carefully.

Question 4: How often do you ask ChatGPT for different explanations or opinions about the same topic?

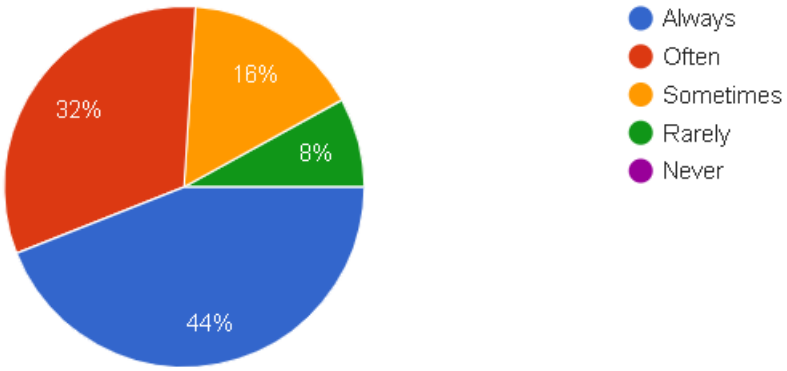

Figure 16: Frequency of Requesting Multiple Explanations or Opinions from ChatGPT.

Most students (76%) said they always or often ask ChatGPT for different explanations. This shows that many students want to understand topics deeply and from different angles, which is a good sign of critical thinking. Only 16% said sometimes, and 8% said rarely. No one chose "never," meaning that all students at least try to explore different ideas when using ChatGPT.

The results show that most students use ChatGPT regularly for reading and analysis tasks. Many of them often start with the tool or use it during their work. While most students try to check if the information is correct, a few do not always do so. It is also clear that many students ask ChatGPT for different opinions or explanations, which shows they are trying to understand topics in deeper ways. Overall, these results suggest that students are using ChatGPT as a support in their reading, but not all of them use it in a critical or careful way.

Section Four: Impact of ChatGPT on Critical Thinking skills

This section investigates learners' perceptions of how ChatGPT influences their critical thinking abilities when reading English texts. The survey explores four key areas: perceived improvement in critical thinking, encouragement to engage more deeply with

texts, reliance on ChatGPT for reading and analysis, and enhancement of independent analytical skills.

Question 1: To what extent do you agree with this statement?

"Using ChatGPT has improved my ability to think critically when reading English texts."

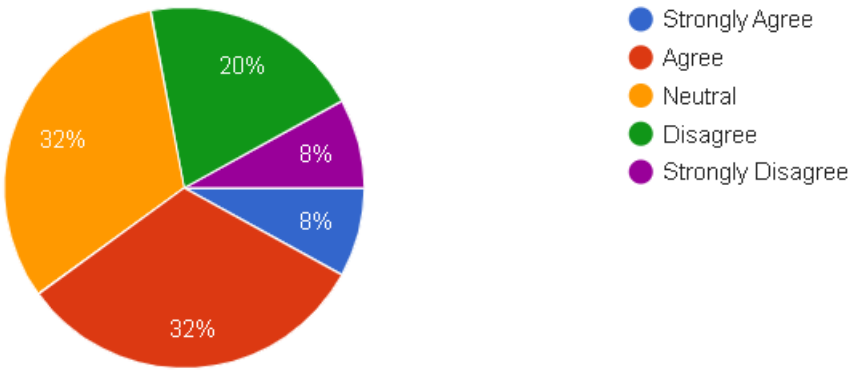

Figure 17: Extent of Agreement on the Impact of ChatGPT on Critical Thinking in Reading.

Out of 25 respondents, 40% (10 participants: 8% strongly agree, 32% agree) report that using ChatGPT has improved their critical thinking when reading English texts. Meanwhile, 32% (8 participants) remain neutral, and 28% (7 participants: 20% disagree, 8% strongly disagree) do not perceive such improvement. This distribution reflects a moderately positive reception but also highlights a significant portion of learners who are either unsure or do not feel the tool benefits their critical thinking skills.

Question 2: In your experience, does using ChatGPT encourage you to question and analyze texts more deeply?

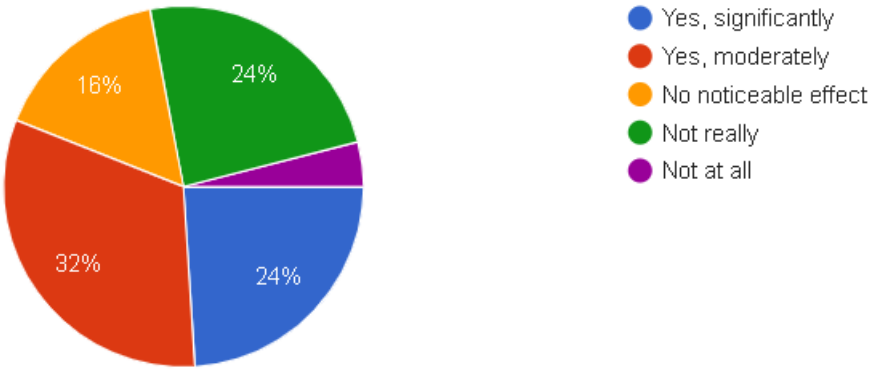

Figure 18: Participants' Views on Whether ChatGPT Encourages Deeper Textual Analysis.

When asked if ChatGPT encourages deeper questioning and analysis, 56% (14 participants: 24% yes, significantly; 32% yes, moderately) affirm its positive effect. Conversely, 44% (11 participants: 16% no noticeable effect; 24% not really; 4% not at all) report little to no influence. This suggests that just over half of the users experience enhanced critical engagement, while a substantial minority remain unconvinced.

Question 3: To what extent do you agree with this statement?

"I rely heavily on ChatGPT for completing my reading and analysis tasks."

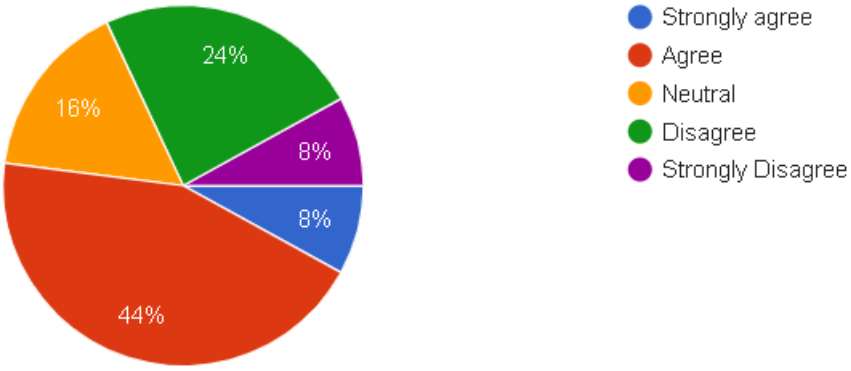

Figure 19: Extent of Reliance on ChatGPT for Reading and Analysis Tasks.

Regarding reliance on ChatGPT, 52% (13 participants: 8% strongly agree; 44% agree) acknowledge depending on it for completing reading and analysis tasks. Meanwhile, 48% (12 participants: 16% neutral; 24% disagree; 8% strongly disagree) indicate limited or no reliance on the AI tool. This near-even split indicates varied usage patterns, with ChatGPT serving as a valuable aid for some learners but not essential for others.

Question 4: Do you believe that your ability to analyze texts without AI assistance has improved because of your frequent use of ChatGPT?

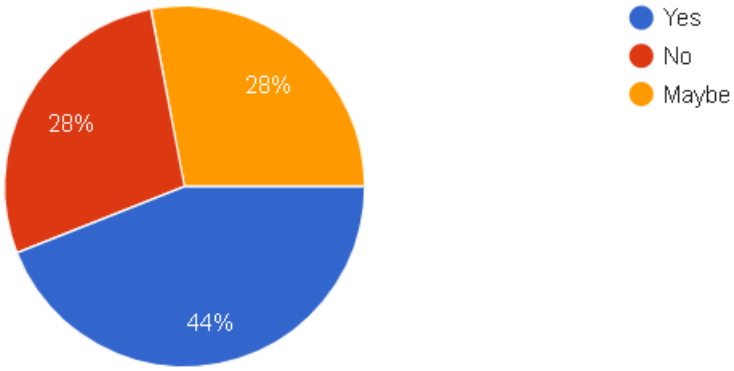

Figure 20: Participants' Beliefs About the Impact of ChatGPT on Their Independent Text Analysis Skills.

A majority of respondents, 44% (11 participants), believe their independent text analysis skills have significantly improved due to frequent ChatGPT use. However, 56% (14 participants: 28% no; 28% maybe) are either unsure or do not perceive such improvement. This outcome points to a complex relationship between AI use and the development of autonomous critical thinking skills.

Please, explain in what way :

Theme	Description
1. Overreliance on ChatGPT and Reduced Independent Thinking	Participants felt that excessive use of ChatGPT reduced their ability to think independently and made them passive learners.
2. Positive Influence on Critical Thinking and Creativity	some students believed that ChatGPT supported their analytical skills, providing structure and demonstrating how to analyze texts.
3. Conditional or Cautious Use.	Several responses expressed a moderate perspective, seeing ChatGPT as helpful only when used with effort and awareness.

Table 7: Participants' Beliefs About the Impact of ChatGPT on Their Independent Text Analysis Skills.

Some students were worried about becoming too dependent on ChatGPT and losing their ability to think on their own. Others appreciated the guidance that ChatGPT offers. They found it helpful because it gives clear steps for analyzing texts. Many students seemed to be in between, showing that how ChatGPT helps depends on how each person uses it and learns.

Question 5 : Describe an experience where you completed a reading or analysis task without using ChatGPT. How did you find the process compared to when you used ChatGPT?

Students' responses to Question 5 revealed five main themes about their experiences completing reading or analysis tasks without using ChatGPT.

Theme	Description
1. Time-consuming but rewarding	Students reported that doing the task without ChatGPT took more time and effort, but it helped them understand better, remember more, and feel proud.
2. Improved learning and critical thinking	Many students felt that doing tasks by themselves helped them learn more deeply, improve their critical thinking, and become more independent.
3. Difficult or challenging experience	Some students said it was hard to complete tasks without ChatGPT and they struggled with ideas, vocabulary, or structure.
4. More meaningful or enjoyable experience	A few students shared that the process without ChatGPT was more enjoyable, interesting, and made them more engaged.
5. Limited experience or no answer	Some students said they did not have such an experience or gave unclear responses.

Table 8: Participant Experiences Comparing Reading and Analysis Tasks With and Without ChatGPT

Many of the students described the process as time-consuming and demanding, yet ultimately more rewarding, as the information tended to stay in their minds and led to a sense of achievement. Several students mentioned that working independently helped them develop their critical thinking and become more active learners, highlighting the benefits of learning from mistakes and making personal efforts. Others found the task difficult, pointing out issues like lack of organization, difficulty generating ideas, or misunderstanding vocabulary. A number of students also expressed that working without ChatGPT was more meaningful and enjoyable, allowing them to stay motivated and feel

satisfied with their own abilities. However, a few students indicated they had no such experience or gave unclear responses. Overall, while students recognized the challenges of completing tasks without AI assistance, they generally viewed the experience as beneficial to their academic growth and thinking skills.

Rate your experience without using ChatGPT:

The chart visually represents how students evaluated their reading or analysis experience when not using ChatGPT, across three dimensions: Ease of Understanding the Text, Time Taken to Complete the Task, and Confidence in Your Analysis. Each response was categorized as Much Worse, Worse, Same, Better, or Much Better.

Figure 21: Rating of Participant Experiences Comparing Reading and Analysis Tasks With and Without ChatGPT

The students' ratings of their experience without using ChatGPT showed mixed results. Most found no change in understanding texts, while some felt it was better and a few found it worse. In terms of time, opinions were different, some said it took longer without ChatGPT, while others managed just as well or even faster. For confidence in analysis, most students felt less confident without ChatGPT, but many also reported feeling more confident and independent. Overall, the results highlight that while some students rely on ChatGPT, others benefit from working on their own.

Question 6: Do you believe that continuous use of ChatGPT might reduce your independent critical thinking skills over time?

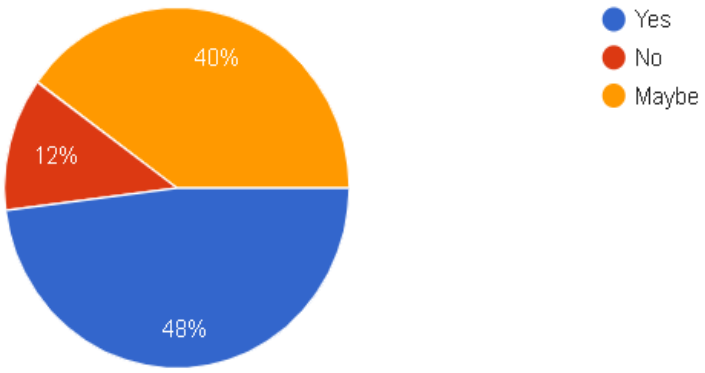

Figure 22: Participants' Beliefs About the Impact of Continuous ChatGPT Use on Independent Critical Thinking Skills.

Please, justify your answer:

Theme	Description	Interpretation
Over-Reliance and Cognitive Reduction	Many students expressed concern that continuously using ChatGPT may reduce their ability to think independently, creatively, and critically over time.	These responses suggest a strong awareness of the risks associated with depending too much on AI tools, indicating that learners value mental autonomy and view critical thinking as a skill that requires practice.
Uncertainty and Conditional Use	A number of students were uncertain, believing that the	These students reflect a nuanced understanding,

	effect depends on how the tool is used. They acknowledged potential downsides, but also saw benefits like idea generation.	showing both openness to technology and caution toward uncritical use. Their ambivalence reflects a transitional phase in digital literacy development.
Thoughtful Use and Critical Engagement	A minority of students believed ChatGPT would not negatively affect their thinking, arguing that it actually prompts them to verify information and remain alert.	This group demonstrates a proactive and critical approach, showing the ability to use technology wisely as a supportive, complementary tool without allowing it to replace their own thinking.

Table 9: Participants' Beliefs About the Impact of Continuous ChatGPT Use on Independent Critical Thinking Skills.

The data reveal that 48% of the students clearly believe that ChatGPT, when overused, can negatively affect their critical thinking abilities. They associate this with reduced creativity, passive learning, and mental dependency. On the other hand, 40% of students expressed uncertainty, emphasizing that the impact of ChatGPT depends on how it is used—whether as a source of support. Only 12% of students believe ChatGPT does not reduce their thinking skills, suggesting that they use the tool selectively and actively engage with its content.

These findings indicate that while most students appreciate the convenience of ChatGPT, many are cautious about its long-term cognitive effects. They show an awareness of the importance of maintaining independent thinking and a need for balanced, critical use of AI in academic settings.

3.4.2 Teachers' interview:

3.4.2.1 Descriptions of Teachers' Interview

The unstructured interview was conducted to investigate the role of ChatGPT in enhancing EFL students' academic critical thinking. This interview addressed to 6 EFL teachers at Mohamed Khaider University of Biskra English department to gather data based on their perceptions on ChatGPT application in order to provide the current research with valuable insights. The interview contained 7 open-ended questions, the first questions of the interview involve general information about teachers experiences with teaching moving to teachers' familiarity with ChatGPT AI assistant. Also the questions designed to obtain thoughtful responses regarding:

- The meaning of critical thinking in EFL learning,
- Their awareness of ChatGPT use among students,
- Their views on the tool's effectiveness in fostering critical thinking,
- And any challenges they perceive in its classroom integration.

3.4.2.2 Analysis of Teachers' Interview

To better analyze the reported data, a thematic analysis method is chosen in the analysis of teachers' interview.

Question 1: How long have you been teaching EFL students?

Teachers	Years of Experience
Teacher A	3
Teacher B	17
Teacher C	5
Teacher D	4
Teacher E	8
Teacher F	5

Table 10: Teachers' Teaching Experience.

This variation in teaching experience is important because it allows for multiple perspectives on teaching practices and the use of tools like ChatGPT. More experienced teachers may draw on years of comparison between traditional and modern methods, while less experienced ones may be more open to experimentation or adapting quickly to AI tools. Together, their insights contribute to a balanced understanding of how EFL instruction is evolving.

Question 2: How do you define critical thinking in the context of EFL learning?

Teacher A: "It is the set of skills and competencies that encourage lifelong learning including attitudes and dispositions that support this learning."

Teacher B: "Critical thinking refers to the learner's ability to analyze, evaluate, and interpret information in English, going beyond memorization to engage in reflective and independent thinking."

Teacher C: "I generally think that students lack critical thinking. This is mostly a result of the Algerian education system."

Teacher D: "It is the learners' ability to take part in his own learning journey by being active and productive."

Teacher E: "Critical thinking is a must in both research and learning."

Teacher F: " The ability to check the validity of data".

The teachers' responses collectively suggest that critical thinking in EFL learning is viewed as a vital skill that promotes independent, reflective, and active engagement with the language. Some teachers define it as a set of cognitive abilities that enable students to go beyond rote learning and take charge of their educational journey, while others emphasize its importance in fostering lifelong learning and academic achievement. At the same time, one teacher points to structural challenges within the Algerian educational system are considered as a major barrier to nurturing critical thinking among students. This indicates a shared recognition of its value, but also a concern about the conditions that may limit its development in practice. These perspectives provide a rich understanding of how EFL educators perceive and value critical thinking in their professional practice.

Question 3: Are you familiar with AI tools like ChatGPT?

Teacher A: Yes.

Teacher B: Yes.

Teacher C: Yes, I am familiar with AI tools.

Teacher D: Yes, somehow.

Teacher E: Yes, I use it regularly.

Teacher F: Yes of course.

All teachers reported being familiar with AI tools such as ChatGPT, indicating a general awareness of emerging technologies in education. While most expressed clear and confident familiarity, one teacher used the phrase "somehow," suggesting a more limited or developing understanding. Notably, only one participant mentioned regular use of AI tools, reflecting not just awareness but active integration of such technologies into their practice. This overall familiarity suggests that AI tools have gained a presence in the professional landscape of EFL teaching, though the degree of engagement and usage may vary among educators.

Question 4: Have you noticed students using AI tools like ChatGpt in their learning?

Teacher A: Yes, they use ChatGPT frequently.

Teacher B: Very often

Teacher C: Yes, I noticed students' reliance on these tools.

Teacher D: Yes, Very often.

Teacher E: Yes, I have seen my students using them.

Teacher F: Yes very often.

The responses provided by the teachers indicate a strong consensus regarding students' engagement with AI tools, particularly ChatGPT. All participants affirmed having observed their students utilizing such technologies in their learning practices. Teacher A confirmed frequent usage, highlighting the regular integration of these tools into students' routines. Teacher B and Teacher D emphasized the prevalence of this behavior, both using the phrase "very often," which implies that the use of ChatGPT has become a habitual part of learners' study strategies.

Teacher C noted the students' "reliance" on these tools, suggesting not only familiarity but also a growing dependence on AI-generated content. This may raise concerns about the balance between supportive use and overreliance, which could potentially impact learners' ability to think independently. Teacher E further reinforced this trend by stating that they had "seen" their students use such tools, confirming that AI is visibly present in the EFL learning context.

Overall, these responses suggest that ChatGPT and similar AI applications are becoming widespread among EFL learners. This widespread adoption positions AI as a potential influence—either positively or negatively—on the development of students' critical thinking skills, depending on how these tools are employed. The frequency of use implies a shift in learning behavior that justifies further investigation into its implications on cognitive engagement and academic autonomy.

Question 5: How do your students seem to perceive ChatGPT in terms of helping them think more deeply or critically?

Teacher A: It's another's opinion, so it broaders' their perspective and provides useful feedback that can improve their learning when used properly.

Teacher B: The majority of students use it to answer homework questions or to guide them throughout their exam revision but I'm not sure if they really use it to improve their thinking skills.

Teacher C: I think students use them as a facilitator to understand new cconcept more clearly.

Teacher D: With more information provided, they will be more curious to verify the information. Therefore, they will ask more and more questions and they will try to analyse them. Soon they tend to develop some critical thinking skills

Teacher E: They do not use it appropriately.

Teacher F: They take it for granted.

The responses to this question reveal varied perspectives among teachers regarding how EFL students perceive and utilize ChatGPT in relation to critical thinking. Teacher A believes that ChatGPT helps students see different opinions. This can improve their thinking if they use the tool correctly and reflect on the answers they receive. While, teacher B is not sure if students actually use ChatGPT to improve their thinking. From their observation, students mostly use it to answer homework or to prepare for exams, not to think more deeply. In addition, teacher C said that students use ChatGPT to help them understand new ideas. While this shows it helps with learning, it does not necessarily mean that it helps them think critically.

In contrast, Teacher D gave a more positive answer. She believes that when students get more information, they become curious and ask more questions. This can lead them to think more deeply and develop critical thinking skills. However, teacher E feels that students are not using ChatGPT in the right way. This suggests that without proper guidance, students may not benefit from it as much as they could. In general, the responses show that ChatGPT can support critical thinking, but it depends on how students use it. Some students may use it only for quick answers, while others may use it to explore ideas and ask questions. Teachers play an important role in helping students use ChatGPT in a way that supports deeper learning.

Question 6: In your opinion, how does using ChatGPT influence learners' ability to think critically in English?

Teacher A: I guess it's useful in helping them develop their own ideas, but again when used correctly.

Teacher B: It can serve as a language support for deeper thinking as it guarantees exposure to varied perspectives and critical thinking models.

Teacher C: By providing them with different perspectives and encouraging them to evaluate information.

Teacher D: It depends. In some given topics or areas, ChatGPT can be very helpful

Teacher E: Yes, it can help them develop their critical thinking abilities, as it gives clear idea on research/learning topic.

Teacher F: Normally, it should push them to compare between ChatGPT data and normal sources data.

The majority of teachers acknowledged that ChatGPT can positively influence learners' critical thinking abilities, provided it is used effectively. Several teachers emphasized the tool's potential to stimulate idea generation and the evaluation of diverse viewpoints. For instance, Teacher A noted that ChatGPT can support students in developing their own ideas if used appropriately, while Teacher B highlighted the tool's value in offering exposure to varied perspectives and models of critical thinking. Teachers C and D similarly mentioned its role in presenting different viewpoints and assisting with certain topics that require deeper understanding. Teacher E observed that the tool could clarify research or learning topics, thus facilitating critical engagement. Teacher F added that ChatGPT

encourages learners to compare AI-generated content with other sources, a process that aligns with reflective thinking.

To sum up, the responses suggest that ChatGPT can enhance learners' critical thinking by prompting them to generate, evaluate, and compare ideas, though its effectiveness largely depends on how it is implemented in the learning process.

Question 7: Which aspects of critical thinking do you think AI tools like ChatGPT help students develop the most (e.g., questioning, analyzing, evaluating)?

Teacher A: Questionning and evaluating and even learning to integrate different perspectives.

Teacher B: It might help them develop their questioning, analysis, generating ideas

Teacher C: It helps them to develop their abilities to analyze and evaluate information in an efficient way.

Teacher D: It tackles the aspect of questioning. Most students would ask more and more questions about the actual answers provided by ChatGPT. Despite them using it as their source of information, they still have to verify the validity of the given information.

Teacher E: It widens students' scope and helps them finding new perspectives.

Teacher F: Evaluate.

Teachers identified several core elements of critical thinking that ChatGPT appears to support, including questioning, analysis, and evaluation. Teacher A pointed out that the tool aids learners in questioning, evaluating, and integrating various perspectives. Teacher B mentioned its usefulness in encouraging learners to ask questions, analyze information, and generate ideas. Similarly, Teacher C emphasized the tool's role in enhancing analytical

and evaluative abilities. Teacher D highlighted that students are prompted to question the information provided by the AI, which leads them to verify the reliability and validity of content. Teacher E believed that ChatGPT helps broaden students' perspectives, while Teacher F succinctly stated that it promotes evaluation.

Overall, the responses indicate that ChatGPT is especially beneficial in developing the skills of questioning, analyzing, and evaluating which represent the key components of critical thinking in academic settings.

Question 8: What challenges or limitations do you think come with students using ChatGPT in their learning process?

Teacher A: Plagiarism and over reliance on AI. Using different ai tools is good, but students lackthe ability to effectively implement them for learning.

Teacher B: Over reliance, passive learning, superficial understanding, reduced language practice, misleading information.

Teacher C: I think it's limiting their ability to think on their own. They are over reliant on these tools

Teacher D: It develops some sense of laziness. The availability of information will only make students less interested in doing the extra work. They always like to finish tasks easily and quickly. So they will be lazy. Also, it kills creativity; learners will take the information as it is. They will lose their own touch and ideas in finishing tasks and writing paragraphs.

Teacher E: Students do not know how to use it. They need to learn how to use in appropriate way.

Teacher F: It may undermine their learning and critical thinking.

According to the interview with teachers, The responses revealed several concerns regarding the limitations of ChatGPT in the learning context. A common issue raised was the risk of over-reliance on the tool. Teachers A, B, and C expressed concern that students may become too dependent on AI, resulting in reduced independent thinking. Teacher B elaborated further by identifying passive learning, superficial understanding, and reduced language practice as possible consequences. Teacher D added that such dependence could lead to laziness, with students avoiding the effort required for genuine learning and creative work. Similarly, Teacher E emphasized that many students lack the knowledge to use the tool effectively, while Teacher F cautioned that excessive use might negatively affect students' critical thinking and overall learning.

These responses collectively highlight that while ChatGPT has educational benefits, it is inappropriate or excessive use of ChatGpt may hinder learners' ability to think independently, reduce creativity, and limit meaningful engagement with language.

Question 9: Would you recommend using ChatGPT as a tool to support critical thinking in EFL learning? Why or why not?

Teacher A: Yes, I would particularly for generating ideas, seeking a second person opinion and for editing as it could be a great editing device.

Teacher B: I recommend a cautious use of ChatGPT because it is not a replacement for teaching, but it's a valuable thinking partner when used actively and reflectively.

Teacher C: I strongly encourage the use of AI as a tool to support learning, but not to do the thinking for them.

Teacher D: Yes, I would recommend using it. Because it can be very helpful in improving learners skills when it comes to complicated concepts. It provides more insights and different points of view on topics. Also ,it facilitates their work by helping them finishing the work in less time and it can be more efficient.

Teacher E: Yes, I recommend using ChatGPT as a tool for research and learning because I believe after using them students will learn a lot of things.

Teacher F: I believe that using ChatGPT can represent a valuable resource for the development of EFL learners' critical thinking skills, offering them the opportunity to explore topics from various perspectives and deepen their understanding.

The whole sample recommended the use of ChatGPT as a support tool for developing critical thinking, though most advised a balanced and reflective approach. Teacher A supported its use for generating ideas, receiving feedback, and editing written work. Teacher B recommended cautious use, describing ChatGPT as a "thinking partner" rather than a replacement for teaching. Teacher C agreed, stressing that the tool should support learning rather than replace the student's own thought process. Teachers D and E viewed ChatGPT as a helpful resource for understanding complex topics and for conducting research, respectively. Teacher F described it as a valuable tool that enables learners to explore various perspectives and deepen their understanding.

In conclusion, the teachers' responses affirm that ChatGPT can be an effective tool in supporting critical thinking in EFL contexts, especially when it is used to stimulate reflection, explore diverse ideas, and assist in academic writing. However, its use must be guided and purposeful, ensuring that students remain active participants in their own learning.

3.5 Discussion and Synthesis of the Findings

The purpose of this section is to interpret the main findings of this study in relation to the research questions and previously established literature. The analysis of data collected through the students' questionnaire and the teachers' interview provided valuable insights into the influence of ChatGPT on the development of critical thinking in EFL reading contexts at Mohamed Khider University of Biskra.

The findings indicate that students who regularly used ChatGPT during reading tasks demonstrated an improved ability to ask questions, reflect on ideas, and evaluate content. Teachers, on the other hand, confirmed that learners who used ChatGPT in a guided and purposeful manner showed greater engagement with texts and were more likely to explore alternative viewpoints. These results answer the first research question, which aimed to determine whether ChatGPT could support the development of critical thinking among EFL learners. The results confirm that when used effectively, ChatGPT contributes to fostering critical thinking by encouraging students to reflect, analyze, and engage more deeply with reading materials.

These results are consistent with several previous studies. For instance, Fathi, Rahimi, and Derakhshan (2024) reported that AI-supported conversations helped EFL learners improve their speaking and increased their willingness to communicate—both of which are closely related to critical thinking. Similarly, Wang and Xue (2024) showed that AI chatbots improved learner engagement by prompting students to ask questions, seek clarification, and participate in thoughtful dialogue. Derakhshan and Ghiasvand (2024), along with Liu and Wang (2024), also found that AI tools can provide supportive and interactive environments that facilitate critical engagement with content. These findings

reinforce the results of the current study and support the view that ChatGPT can be a valuable educational tool in the EFL classroom.

The second research question focused on exploring EFL learners' perceptions of the role of ChatGPT in enhancing their critical thinking while engaging with reading materials. The findings indicated that most students viewed ChatGPT positively, highlighting its usefulness in clarifying information, encouraging questioning, and offering diverse perspectives. Moreover, the findings also revealed variation in the ways students use ChatGPT. Some learners utilized the tool to compare perspectives, verify information, and explore new ideas, which appeared to enhance their critical thinking. Others used it mainly for completing tasks quickly, which offered little cognitive benefit. These differences may be explained by individual learning strategies, familiarity with the tool, and levels of training in AI literacy.

In relation to the third research question, the study identified several challenges in integrating ChatGPT into the EFL context. The findings have shown that overreliance on that tool was a key issue raised by both students and teachers. While many students recognized ChatGPT's usefulness, some admitted to depending on it too heavily; which limited their creativity and ability to think independently. Teachers observed similar patterns, expressing concern that frequent use without proper reflection might hinder students' autonomy and reduce their ability to critically evaluate texts. These concerns support the conclusion that while ChatGPT is helpful, its effectiveness depends largely on how it is used.

It is also worth noting that all the participants supported the integration of ChatGPT into the EFL classroom, especially as a tool for generating ideas, supporting comprehension, and assisting with writing. However, they emphasized that ChatGPT should act as a

learning assistant—not as a substitute for independent thinking. Their responses also suggest that training learners on how to critically engage with AI tools is necessary for achieving better learning outcomes.

In conclusion, this study shows that ChatGPT can be a valuable tool in fostering critical thinking among EFL learners, particularly in the context of reading. However, the way students interact with the tool and the extent of guidance they receive significantly influence the outcomes. The integration of AI tools like ChatGPT should be accompanied by proper instruction and critical awareness to help students use these technologies effectively and responsibly.

General Conclusion

This research investigated the impact of AI technologies, particularly ChatGPT, on enhancing EFL learners' critical thinking, with a focus on reading. It aimed to explore how ChatGPT influences learners' ability to analyze, question, and evaluate texts, as well as to understand their perceptions of AI's role in reading, and identify challenges related to integrating such tools in the EFL context.

The theoretical part of the study provided an overview of Artificial Intelligence (AI) in education, with a particular emphasis on ChatGPT and its use in language learning. It also discussed the role of reading in EFL contexts and the relationship between critical thinking and reading comprehension.

A mixed–methods research design was employed to collect and analyze data from both Master two students and teachers at the University of Mohamed Khider – Biskra. Data collection tools included an online questionnaire for students and interview with EFL teachers. The analysis revealed several important findings:

First, ChatGPT was shown to have a positive impact on students' critical thinking skills during reading tasks. Students reported greater engagement with texts and improved abilities in questioning, analyzing, and evaluating information. Teachers confirmed that when students use ChatGPT reflectively, they are more likely to explore diverse perspectives and engage in deeper thinking.

Second, the study highlighted the varied ways in which learners interact with ChatGPT. While many used it to compare ideas and clarify understanding, others tended to rely on it excessively to complete tasks, which limited their independent thinking. Teachers expressed concerns about overreliance and stressed the importance of guidance to help students use the tool effectively.

Third, the study identified both the potential and the challenges of integrating AI tools in EFL contexts. The potential lies in ChatGPT's ability to support learning, generate ideas, and encourage deeper thinking. However, challenges include misuse, lack of training, and reduced student autonomy when the tool is not used critically.

These findings align with previous research that demonstrated the positive role of AI in promoting engagement and critical dialogue among EFL learners (Fathi et al., 2024; Wang & Xue, 2024; Derakhshan & Ghiasvand, 2024). The current study adds to this body of work by showing that, in the context of reading, ChatGPT can be an effective support for fostering critical thinking skills when used purposefully and under proper guidance.

In conclusion, this study offers valuable insights into the role of AI technologies like ChatGPT in language education. It shows that ChatGPT has the potential to serve as a meaningful tool in developing EFL learners' critical thinking, especially in relation to reading. However, its effectiveness depends on how it is used. To maximize its benefits, educators should integrate ChatGPT as part of a guided and reflective learning process, helping learners to think independently while taking advantage of AI-driven support.

1. Pedagogical Implications

The research discussed in this work demonstrated that ChatGPT has the ability to significantly enhance the EFL learners' critical thinking skills. The findings of this study gave insights to some implications for the EFL academic society. For learners, they can exploit the ChatGPT potentials in their learning process. ChatGPT can help improve reading comprehension and critical thinking by encouraging active engagement with texts. It assists learners in forming questions, evaluating ideas, and comparing perspectives. For teachers, the results suggest the importance of incorporating ChatGPT thoughtfully into reading instruction, with clear guidance on responsible and reflective use. In addition,

educators are encouraged to foster digital literacy, particularly in helping students understand how to use AI tools ethically. This includes developing awareness about the limitations of generative tools and how to navigate academic honesty in the context of AI-generated content. Thus, teaching students about originality, AI-generated content boundaries, and ethical use of ChatGPT is essential for maintaining academic integrity while benefiting from technology in EFL learning.

2. Limitations of the Study

While this study has offered valuable insights into the role of ChatGPT in enhancing EFL learners' critical thinking during reading, it is important to acknowledge several limitations:

a. Sample Size: The study was conducted with a relatively small sample, consisting of 25 Master 2 students and 6 teachers from a single university. This limited number may restrict the generalizability of the findings to a wider EFL population.

b. Restricted Context: Since the study was carried out only at Mohamed Khider University of Biskra, the results are context-specific and may not reflect experiences or outcomes in other academic institutions or educational settings.

c. Absence of Longitudinal Data: The data were collected over a short period of time. This prevents the study from capturing the long-term effects of using ChatGPT on learners' critical thinking skills, especially when it comes to sustained academic improvement.

d. Self-Reported Data: The reliance on questionnaire and interview data introduces the risk of response bias. Participants might have provided socially desirable answers or lacked full awareness of their own usage patterns.

e. Variability in AI Familiarity: Some students were more familiar with ChatGPT than others, which could have influenced their level of engagement and responses. The study did not control for differences in digital skills or prior AI exposure.

f. Ethical and Pedagogical Concerns: The use of AI tools like ChatGPT raises important ethical questions, including the risks of plagiarism, misuse, and overdependence on technology.

These issues were not the primary focus of the current study but remain critical areas to address in future research on digital education.

3. Recommendations for Further Research

Based on the findings and limitations of this study, the following recommendations are proposed for future research: First, future studies should adopt a longitudinal design to assess the long-term impact of ChatGPT on EFL learners' critical thinking in reading. Extending the research duration would allow students to become more familiar with AI tools and provide more accurate insights into their effects on learning outcomes over time. Second, researchers are encouraged to use a mixed-methods approach that combines both qualitative and quantitative data using different data collection tools. This would offer a more comprehensive view of how students and teachers interact with ChatGPT and how it influences reading comprehension and cognitive engagement. Third, future research should include larger and more diverse samples from various academic institutions and regions. This would help in generalizing findings and better understanding how learners from different backgrounds respond to the integration of AI in EFL contexts. Fourth, comparative studies between different AI tools (e.g., ChatGPT vs. other chatbots) can provide insights into which features are most effective in promoting critical thinking and active reading. Finally, it is recommended that future research explores the impact of

digital and AI literacy training, including awareness of AI detectors and ethical guidelines, to better prepare learners for responsible use of technology in academic settings. Thus, by addressing these areas, future studies can deepen understanding of AI's educational potential and contribute to more effective and ethical practices in EFL instruction.

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Appendices

Appendix A: Students' Questionnaire:

Investigating the Impact of AI Generative Tools like ChatGPT on EFL Learners' Critical Thinking Through Reading.

Instructions:

Dear Master 1 students,

This questionnaire is part of a research study exploring how using AI tools like ChatGPT affects your critical thinking skills when reading and analyzing English texts.

Your honest answers will help us better understand your learning experiences. All responses are confidential and will be used for academic purposes only.

Please answer all the questions based on your personal experience. Thank you for your valuable participation!

Section One: Background Information

1. Please select your age group:
   - 22–27
   - 28 and above
2. Gender:
   - Male
   - Female
3. How do you consider your level of English?
   - Good
   - Average
   - Weak

Section Two: Self-Assessment of Critical Thinking Skills

1. Read each sentence and choose how much you agree with it when you read or analyze English texts.

"I am good at identifying the main ideas in a text."

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

2. I check and verify information before accepting it as true.
   - Always
   - Often
   - Sometimes
   - Rarely
   - Never
3. I consider other opinions and different points of view when reading a text.
   - Strongly Agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree

Section Three: Experience with ChatGPT

1. When you have a reading or analysis task, do you usually use AI tools like ChatGPT first, or do you try to work through the task on your own?
   - Always use ChatGPT first
   - Often use ChatGPT first
   - Sometimes use ChatGPT first and sometimes work on my own first
   - Rarely use ChatGPT first; mostly work on my own first

- Never use ChatGPT first; I always work on my own first

2. How often do you use ChatGPT for reading and analyzing English texts?
   - Always
   - Often
   - Sometimes
   - Rarely
   - Never
3. When you use ChatGPT for reading or analysis tasks, do you check whether the information it provides is correct, or do you accept it without checking?
   - Always check it
   - Often check it
   - Sometimes check it
   - Rarely check it
   - Never check it
4. How often do you ask ChatGPT for different explanations or opinions about the same topic?
   - Always
   - Often
   - Sometimes
   - Rarely
   - Never

Section Four: Impact of ChatGPT on Critical Thinking skills

1. To what extent do you agree with this statement?

"Using ChatGPT has improved my ability to think critically when reading English texts."

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

2. In your experience, does using ChatGPT encourage you to question and analyze texts more deeply?
   - Yes, significantly
   - Yes, moderately
   - No noticeable effect
   - Not really
   - Not at all
3. To what extent do you agree with this statement:

"I rely heavily on ChatGPT for completing my reading and analysis tasks."

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

4. Do you believe that your ability to analyze texts without AI assistance has improved because of your frequent use of ChatGPT?
   - Yes, significantly
   - Yes, somewhat
   - No, not really
   - No, not at all

Please, explain in what way :

…… ……

…… ……

5. Describe an experience where you completed a reading or analysis task without using ChatGPT. How did you find the process compared to when you used ChatGPT?

…… ……

…… ……

Rate your experience without using ChatGPT:

Aspect	Much Worse	Worse	Same	Better	Much Better
	(1)	(2)	(3)	(4)	(5)
Ease of Understanding Text					
Time Taken to Complete the Task					
Confidence in Your Analysis					

6. Do you believe that continuous use of ChatGPT might reduce your independent critical thinking skills over time?

- ☐ Yes
- ☐ No

Please, justify your answer:

……

……

Thank you for your participation and for sharing your valuable insight!

Appendix B: Teachers' Interview

Thank you for participating in this study. This interview seeks to find out the perspectives of EFL teachers on the role of AI-generative tools, particularly ChatGPT, influence the development of critical thinking skills among EFL learners. It also seeks to understand learners' perceptions of such tools and identify the challenges and limitations related to their integration in the language learning process, with a particular emphasis on reading.

Your insights as an experienced teacher are highly appreciated and will contribute significantly to the depth and relevance of this research.

1. How long have you been teaching EFL students?
2. How do you define critical thinking in the context of EFL learning?

_____

3. Are you familiar with AI tools like ChatGPT?

_____

4. Have you noticed students using them in their learning?

_____

5. How do your students seem to perceive ChatGPT in terms of helping them think more deeply or critically?

_____

6. In your opinion, how does using ChatGPT influence learners' ability to think critically in English?

_____

7. Which aspects of critical thinking do you think AI tools like ChatGPT help students develop the most (e.g., questioning, analyzing, evaluating)?

_____

8. What challenges or limitations do you think come with students using ChatGPT in their learning process?

…… ……

9. Would you recommend using ChatGPT as a tool to support critical thinking in EFL learning? Why or why not?

…… ……

Thank you for your valuable time and collaboration.

الملخص

تهدف هذه الدراسة إلى استكشاف دور تقنيات الذكاء الاصطناعي، وبشكل خاص أداةChatGPT ، في دعم التفكير النقدي لدى متعلمي اللغة الإنجليزية كلغة أجنبية أثناء أداء مهام القراءة. أُجريت هذه الدراسة بجامعة محمد خيضر – بسكرة، وركّزت على طلبة الماستر في تخصص علم اللغة، حيث شملت عينة البحث 25 طالبًا و6 أساتذة. وقد تم اعتماد منهج بحثي مزدوج يجمع بين الأسلوب الكمي والنوعي، وذلك من خلال استخدام استبيان للطلبة ومقابلات موجهة للأساتذة، بهدف التعرف على كيفية تفاعل الطلبة مع ChatGPT ومدى تأثيره على ممارساتهم في القراءة الأكاديمية.

أظهرت النتائج أن عددًا كبيرًا من الطلبة يستخدمون ChatGPT بشكل منتظم للمساعدة في فهم النصوص، وتوليد الأفكار، وتحليل المحتوى. وعلى الرغم من أن نسبة مهمة من المشاركين أبلغوا عن تحسن في التفاعل والتفكير العميق عند استخدام الأداة، إلا أن بعضهم أعرب عن مخاوف من الإفراط في الاعتماد عليها وما قد يترتب عن ذلك من تراجع في التفكير المستقل. كما أقرّ الأساتذة بقدرة ChatGPT على تنمية مهارات التفكير النقدي الأساسية مثل: طرح الأسئلة، التقييم، والتحليل، لكنهم شددوا في الوقت ذاته على أهمية الاستخدام الواعي والموجّه لتفادي التعلم السلبي.

خلصت الدراسة إلى أن ChatGPT يمكن أن يكون أداة فعالة في تنمية التفكير النقدي في سياقات تعلم اللغة الإنجليزية كلغة أجنبية، شرط أن يُدمج بشكل هادف. كما أكدت على الحاجة إلى استراتيجيات تعليمية متوازنة تشجع المتعلمين على استخدام الذكاء الاصطناعي كوسيلة دعم، لا كبديل عن التفكير الذاتي.