The Correlation between Constructive Thinking and Reading Comprehension of Iraqi EFL University Students

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Abstract in English

Abstract

The acquisition of English as a foreign language remains a central concern for researchers and educators due to persistent challenges such as limited learning outcomes, slow comprehension, and instructional inefficiencies. Given that language learning is inherently a cognitive process, this study emphasizes the critical role of cognitive constructs—particularly constructive thinking—in enhancing language proficiency, with a focus on reading comprehension. This research examines the correlation between constructive thinking and reading comprehension among Iraqi university students enrolled in English departments. A stratified random sample of 200 third-year students (100 males and 100 females) was selected from three different Iraqi provinces. Two standardized instruments were employed: a 30-item Constructive Thinking Inventory (Epstein, 1998) and a 10-item reading comprehension test (Abbas & Al-Musawi, 2020). The results indicated generally low levels of both constructive thinking and reading comprehension among the participants. A statistically significant correlation was observed between students' constructive thinking scores and their performance in reading comprehension.These findings highlight the integral role of cognitive processing in second language acquisition. The evident correlation underscores the necessity of incorporating thinking skills development into EFL curricula to improve reading comprehension and overall language proficiency.

Introduction

1.1 Statement and Significance of the Problem

Reading is one of the fundamental skills in language. Proficient reading is a hallmark of accomplished learners. Students at university, secondary school, and even primary school rely primarily on reading. It is widely believed that proficient readers are, in

turn, proficient learners. Therefore, establishing a strong connection between the reader and the written text-whether in the native, second, or foreign language is of paramount importance. (Lalicic and Dubravac,2021:1). Researchers have asserted that learners of English as a foreign language struggle considerably with reading proficiency. Most are weak readers, slow in scanning texts, and exhibit a diminished capacity for comprehension. This, undoubtedly, stands as a clear indicator of inadequate mastery of foreign language reading skills. (Al-Mahrooqi, and Roscoe,2014;ix).

Much like foreign language learners across the globe, Iraqi EFL university students grapple with considerable challenges when engaging with written texts, despite having been immersed in English language acquisition for several years. (Abbas and Ali,2020:437).Accordingly , understanding of how to enhance reading comprehension, its significance, and the essential effort for its development should be of paramount importance to those involved in the educational sector. Furthermore, the focus should not solely be on students learning English as a foreign language, but also on all students preparing to confront the major academic challenges ahead. (Snow,2002:xi).

The connection between language skills and forms of thinking is strong. Likewise, reading is closely linked to mental processes and thinking. Reflection and thought are considered the foundation and main framework for the reading process (Pengsun and imiao, 2013: 6) .

Researchers and educators have discussed numerous descriptions, categories, and theories of thinking, which indicates that mental processes and thinking receive great attention in scientific circles. Understanding the types of thinking, as well as intelligence and their impact on individuals behavior, is of utmost importance in enhancing the outcomes of these activities.In the mid-19th century, some concepts of thinking began to spread and became the focus of scientific research. Among these categories, for example:; creative thinking, critical thinking, vertical thinking, lateral thinking ,productive thinking ,Re-productive thinking and recently the constructive thinking (Jarwan, 2007: 41).

 Constructive thinking is a relatively new concept that is becoming more prominent in quantitative research. It has inconsistent operational definitions and few measurement indices, but it has the potential to improve issue resolution by strengthening the analytical line of thought. Constructive thinking is a contemplative as well as a dynamic approach that combines several modes of knowledge (logic, creativity, intuition, and emotion), appreciates expertise, fosters caring connections, and generates novel ideas that advance society (Upadhyay,2022:56).

Accordingly, the current study aims at finding out the correlation between Iraqi EFL university students' constructive thinking and reading comprehension, in which the former is specified as having valuable contribution and positive correlational influence on the latter. In any case, the problem addressed in this study is broadly defined, and its key elements can be better understood by answering the following two questions:
1. Is there a significant and measurable correlation between constructive thinking and reading comprehension, and how does one influence the other in cognitive processing?
2. Does constructive thinking play a crucial role in enhancing students' mastery of reading comprehension, and to what extent does it influence their ability to analyze ,interpret and comprehend texts effectively?

1.2 Aims of the Study
1. Finding out Iraqi EFL university students' constructive thinking.
2. Finding out Iraqi EFL university students' level of reading comprehension.
3.Finding out the statistical significant of the correlation between constructive thinking and reading comprehension of Iraqi EFL university students.

1.3 Values

Studying the crucial importance of the relationship between constructive thinking and reading comprehension among university students is essential. Understanding this connection will provide important data for those concerned with educational issues and learning English as a foreign language .The researcher hopes that this effort will provide useful and basic data that can be beneficial in determining the priorities for admitting students to the English department .

1.4 Limits

The current study is limited to:

1. Iraqi EFL University Students.

2.The academic year 2024-2025.

2. Literature Review

Constructive thinking , and reading comprehension are highlighted in the theoretical background**.**

2.1 Constructive Thinking

Constructive thinking is the extent to which a person engages in automatic thought processes, enabling them to solve problems in life's challenges with minimal psychological stress.Those who demonstrate strong constructive thinking tend to interpret situations as challenges rather than threats. They regard failure as a stroke of bad luck rather than a definitive setback and consistently adopt a positive outlook on circumstances but not to an unrealistic degree. Instances of poor Thinking Constructively are stand on events with negative feelings ,thinking categorically, overgeneralizing, worrying about negative thoughts, and thinking cheerlessly without trying anything worthwhile.

A good conservative thinker must follow three rules in order to make better decisions. Accepting things that cannot be changed, trying to change what is possible to be changed, and thinking about the real difference between them (Epstein,1998:26). It is clear that High quality of constructive thinking makes people gain a set of adaptive thoughts and beliefs that strengthen their abilities in regulating their positive emotions and maintaining the" action in focused coping way and style. The poor or low constructive thinking on the other hand, leading people to have maladaptive and automatic ideas in which they obstruct the cognitive process of emotion and it's monitoring (Malambo,et al.,2024:3) .

Constructive thinking is founded on the belief that knowledge develops through interaction with one's environment and an individual's willingness to embrace positive ideas arising from it. It also relies on the ability to share thoughts and engage with peers, fostering both expertise and a sense of inner peace. (Driscoll, 2005; Felder & Brent, 2015; Oskam, 2009; Shayer, 2003).

Individuals with a high and refined level of constructive thinking are characterized by their acceptance of themselves and the society around them. They think positively and optimistically, adhere to facts, and evaluate them based on their differences. Although constructive thinkers are positive toward themselves and those around them, they do not generalize. Instead, they address the genuine positive aspect of calm thinking, which approaches matters realistically, acknowledging that every situation has aspects that must be dealt with positively. Poor constructive thinkers are characterized by the opposite reactions. Individuals with a high capacity of constructive thinking can positively connect with themselves mentally, psychologically, and even physically. They succeed in their work, excel in their relationships with those around them, and effectively maintain their personal relationships in an optimal manner. (katz,1989:3).

Constructive thinking is reflective thinking and an active process that relies on various experiences. These experiences represent and reflect different ways of knowing, stemming from a person's internal thinking, blended with beliefs, emotions, and feelings that shape relationships within the individual's mind. Additionally, it benefits both society and the surrounding environment. Constructive thinking is similar to certain thinking skills; for example, it shares similarities with critical thinking on three dimensions and independent on two: perspectives/position and caring relationships, and consequences/conclusions and concepts that benefiting society (Hewlett,2005:1).

Constructive thinking often relies on mental advancement as individuals grow. It occurs because the human mind is usually connected to ideas that drive individuals to perform. When someone thinks constructively, their mind works at a high pace to find new, creative, and useful ways to present themselves. Accordingly, we can also say that constructive thinking is closely related to creative thinking, as both stem from a mind that thinks differently, in a unique space that cannot be confined within the box. (Upadhyay,2022:57).

Constructive thinking inclusions numbers of abilities that culturally embedded, in which people are socially connected .Those who think constructively make use of various cognitive and emotional tools, such as reasoning, intuition, imagination, and emotional intelligence. These tools do not operate on their own; rather, they gain significance and function through the individuals who apply them. Since humans are inherently limited and influenced by their surroundings, these tools must undergo continuous refinement and critical reassessment. Through their use, constructive thinkers enhance their ability to communicate effectively and build strong interpersonal relationships—skills that are essential for navigating social interactions. By honing these abilities, individuals can contribute to the creation and expansion of knowledge, foster deeper understanding among people, and play an active role in shaping a more thoughtful and interconnected world (Bacon,2000:36).

According to (Epstein,1998 :40) constructive thinking is built of the following six dimensions:

- Emotional coping: This strategy is used to manage stress, where the individual focuses on adjusting and regulating negative emotions and creating a psychological barrier between themselves and the source of stress, rather than exerting effort to change or confront the stressor. In this case, the individual controls their negative feelings using various cognitive defensive and behavioral techniques, including relaxation techniques like meditation, , positive reframing, prayer, wishful thinking as avoidance technique that are used to less the negative felling. It known that emotional coping strategies are used primarily when a person appraises a stressor as beyond his or her capacity to change (Vandenbos,2015:365).

- Categorical thinking: Ideas of this kind of thinking are considered a phenomenon that accompanies the psychological state associated with social aspects. In other words, a person with categorical thinking approaches matters and experiences in a broad manner, which can be described as generalizing these experiences to understand them better and to perceive the world comprehensively. It is considered as all-or-nothing - thinking, is it the individuals tendency in trying to reduce people's bad effect , things, and behaviors to a simple category. Typically, individuals label things as good or bad, we ignore all the qualities of situations that don't accurately fit into our definition(Mcinerny,2004:41).

-Esoteric thinking:" Esotericism" refers to the Uncommon knowledge and ideas whose meanings and implications may change depending on the context in which they appear.

They can introduce fresh perspectives or unconventional concepts that enhance understanding and deepen discussions on a given subject. In the case of "esoteric thinking" it refers to the tendency to think about mostly unreal or less understood phenomena, for example, believing in astrology, people's hidden power, ghosts existence, etc. Those who are instructed in esoteric thinking enter gradually into more subtle levels of understanding of the text (Epstein,1998 :41).

-Personal superstitious thinking: Early discussions on superstition primarily emphasized its motivational aspect, suggesting that the main function of superstitious beliefs is to provide individuals with psychological comfort by alleviating the anxiety caused by uncertainty. This process helps reduce fear of the unknown, offering a sense of control and predictability in situations where logical explanations or definitive answers are lacking. Over time, superstitious thinking has evolved, influencing human behavior, decision-making, and cultural traditions across different societies.(Risen,2015:184) Superstitious thinking is a form of paranormal belief that assumes a causal connection between an action and its outcome, even when no real cause-and-effect relationship exists. Individuals often resort to luck-related superstitions during stressful or high-pressure situations as a way to create a false sense of control over events. As a result, superstitious thinking tends to become more prevalent during periods of hardship, uncertainty, and emotional distress, influencing decision-making, coping mechanisms, and personal behaviors across various cultures and traditions. (Gross and Levitt,1997:21).

-Naive optimism: Optimism is a mental orientation based on future expectations, linked to the dimensions of event reliability and positive thinking. Optimistic people are individuals who minimize effort and time, hoping to achieve results that fulfill their dreams, even if they are difficult. Moreover, naive optimism is the absolute belief that good events will inevitably happen. On the other hand, it is the belief that bad events will not occur and are not likely to happen to the person themselves, unlike others. (Murray,2004 ; Bennett, 2015; Seligman,2006; Brandt,2011).

-Behavioral coping: Every strategy in which an individual attempts to alleviate the psychological stress associated with unexpected events or situations by modifying their behavior. Converse cognitive coping is seen as an important example of behavioral coping. Several forms of behavioral coping ,This is reflected in seeking social support and directly asking others for help in an attempt to resolve the issues associated with difficult life situations .Modifying habitual behaviors, such as adopting a new exercise regimen or taking a vacation, along with openly expressing emotions, serves as a means of adapting to changing circumstances, enhancing well-being, and fostering emotional resilience in the face of life's challenges (Vandenbos,2015:113).

2.2 Reading Comprehension

Reading is a complex skill that depends on comprehension and the reader's interaction with the text. It is purposeful, interactive, and a flexible activity. The reader needs a considerable effort and amount of time to develop. Reading is rapid, which means that readers should maintain flow of information at a sufficient rate to make connections and inferences vital to comprehension. Every reader approaches a text with a specific purpose—be it entertainment, gaining knowledge, or conducting research—and this purpose fuels motivation, a crucial trait of skilled readers. Reading is also a highly interactive activity: it involves not only decoding words on a page but also actively engaging with prior knowledge and experiences. Moreover, it is a process where multiple cognitive skills work in harmony. Readers generally expect to understand the material they engage with, and to achieve this, they use a variety of flexible strategies tailored to the reading task at hand. It's important to recognize that

reading fluency doesn't happen overnight; it is a gradual journey shaped by consistent practice, reflection, and a genuine desire to grow as a reader (Bojovic,2010: 1).

Comprehension is the cornerstone of reading, as it involves thinking, understanding, and analyzing the messages and meanings conveyed in the text. (Serravallo,2010:43). Reading comprehension is an active process with interconnected mental dimensions, guided by thinking. This process enables the reader to gather the text's vocabulary, linking and integrating thinking processes with the text's content, the reader's prior knowledge, and their expectations about the idea in the text and the purpose of reading. (Block, et al,2004:4).

Reading comprehension is the ability to grasp and interpret the meaning of written texts in a thoughtful and purposeful manner. It draws upon a reader's prior experiences, general knowledge, vocabulary range, awareness of grammatical structures, and proficiency in recognizing words. Successful comprehension occurs when readers integrate the information presented in the text with what they already know, enabling them to form meaningful connections. This process involves more than simply decoding words—it requires the active application of strategies such as identifying the central idea, drawing logical inferences, making thoughtful predictions, posing relevant questions, and linking concepts across different parts of the text. A skilled reader also monitors their understanding as they read, adjusting their approach as needed to achieve a deeper insight into the material (Westwood,2008:30-31).

A reader's comprehension of what they read is more than just pronouncing written words. True and useful comprehension means understanding what is read and connecting ideas and concepts with prior experiences. It also involves remembering what has been read, which means that comprehension includes thinking, remembering, and analyzing during reading. (Mikulecky and Jeffries,2007:74).

Reading comprehension extends beyond a reader's immediate response to a text; it is a multifaceted, intricate process that requires continuous interaction between the reader's cognitive abilities, prior knowledge, and strategic approaches. Additionally, comprehension is influenced by various text-related factors, such as readability, structural complexity, engagement level, and familiarity with different text genres. Together, these elements shape the depth of understanding and the overall reading experience. (Harris and Graham,2007: 8). It is a complex amalgamation of processes, involving a swift, efficient, and interactive approach to comprehension. This strategic, adaptable, and purposeful process is characterized by evaluative and linguistic elements, reflecting the actions of fluent readers as they process texts, integrating prior knowledge, and continuously refining their understanding to navigate and make sense of the material (Grabe ,2009: 14).

Poor reading comprehension can be caused by a variety of different factors, including those intrinsic to the students and others related to insufficient instruction or to inappropriate materials. According to (Westwood,2008:34),there are eight most frequently mentioned causal factors including:
- Limited vocabulary knowledge: Students' knowledge of vocabulary is of utmost importance and fundamental to their reading ability, as this knowledge is directly correlated with their ability to comprehend and read a text effectively. The more extensive a student's vocabulary, the stronger their reading foundation, allowing them to grasp key elements of a text and read it proficiently. Conversely, a limited vocabulary reduces a student's reading efficiency and ability to understand a text, as they lack the essential tool for reading skills, especially in academic contexts. (Al khsawneh,2019:44).

-Lack of fluency: Linguistics specialists consider that proficiency and fluency in reading skills are linked to the quality of oral reading, including pronunciation, articulation, intonation, and adherence to correct reading standards in a foreign language. Therefore, fluency is measured based on voice, stress, articulation, as well as reading rate and speed.Fluency in reading is the result of proper intensive training and practice, where the mechanical aspect of speech organs, textual knowledge, and interaction with the text come together. This includes text management aspects such as intonation during reading. (Breznitz,2008:4).

- Lack familiarity with the subject matter: One important factor to be considered when selecting texts is their familiarity to students. Relying solely on standard textbook materials may not be sufficiently effective unless supplemented with additional resources. It is preferable to accompany these texts with videos, posters, and discussions between students and teachers to build a solid foundation and prior knowledge before students begin reading. This approach is particularly beneficial for students with lower proficiency levels. (Westwood,2008:35).

- Difficulty level of the text (readability): One of the important factors to be considered when selecting texts is ensuring they are readable. This means that the vocabulary and main ideas of the text should align with the student's cognitive level and developmental stage. The text provided to the student should match their mental capabilities, and it is recommended to review and adjust the text as needed to ensure it is appropriate for their reading ability. (Murphy, 2013:1).

- Inadequate use of effective reading strategies: Reading strategies are essential tools that teachers should train students to use effectively. Reading comprehension fundamentally relies on the intelligent application of these strategies, leading to proficient reading and a solid understanding of the text. (Banditvila,2020:46).

- Weak verbal reasoning: Strong verbal reasoning involves effectively understanding, analyzing, and drawing conclusions from complex written material. It includes the ability to evaluate arguments, recognize assumptions, and identify logical connections.Weak verbal reasoning on the other hands struggles with interpreting written content, often missing key points, making incorrect inferences, and having difficulty understanding nuanced or complex ideas (Bryon,2008:9).

When an individual reads, the cognitive process involves the real-time processing of information, decoding texts and words, understanding meaning, function, and the narrative context of events, and also using prior knowledge to explore new knowledge. If an individual has difficulties in processing information, comprehension and the ability to retain analyzed information during reading will be negatively affected. This can lead to frustration, despair, reduced motivation, and a slower pace in learning to read. (Kimura,2022:43-44).

- Problems in recalling information after reading: Recalling information after reading enhances understanding and retention. This can be achieved by summarizing key points or discussing the material with others. Reviewing notes or highlights also helps improve recall and deepen comprehension.Weak recalling can hinder understanding and long-term retention of information(Maria ,et.al,2024 :15-16).

However, Teaching reading comprehension involves far more than simply asking questions after students have read a passage. It requires selecting the most suitable strategy for instructing students, explaining the reasoning behind the strategy, modeling its use, offering clear and explicit guidance on how to apply the strategy, and providing students with both guided and independent practice. All of this should take place in an authentic context that encourages the application of the strategy in real-world scenarios, ensuring deeper understanding and retention. (Block, 2006:245).

According to (Keene and Zimmermann,1997:31-35), Effective reading comprehension skills include: (a) Activating prior knowledge before, during, and after reading to enhance understanding. (b) Identifying the key ideas and themes within a text. (c) Generating visual and sensory images throughout the reading process to deepen engagement. (d) Asking questions, as skilled readers read with curiosity and a desire to explore. (e) Making inferences, with proficient readers constantly going beyond the literal meaning to interpret the text. (f) Retelling and synthesizing information, enabling readers to understand how different parts of the text interconnect. (g) Employing fix-up strategies when comprehension falters, as proficient readers monitor their understanding and use strategies to resolve confusion in real-time.

3.Methodology

According to the nature of the current study, a correlational type of research is adopted. Correlational research is a type of descriptive research that involves gathering data to assess whether and to what extent a relationship exists between two or more measurable variables. This type of research helps identify patterns and connections between variables without establishing causality, offering valuable insights into the nature of their interaction and potential influence on each other. (Kumar, 2011: 10) .

Accordingly, a correlational method of research has been used in terms of explanatory design to find out the correlation among the two variables , the researcher identified students' constructive thinking and reading comprehension by using a questionnaire and a test. Analysis was also used in order to find out the correlation between the variables based on the result.In verifying the aims of this study, several statistical methods have been done by using SPSS .

3.1Sample

When selecting a sample, two primary objectives should be pursued. The first is to ensure that the sample collection process is free from bias, allowing for accurate and representative data. The second goal is to achieve the highest level of precision possible within the constraints of available resources, ensuring that the sample accurately reflects the population while making efficient use of time, effort, and funds. Balancing these factors is crucial for obtaining reliable and valid results (Kumar, 2011: 25). The sample of the current study is restricted to the EFL students of third year at three of Colleges of Education in Karbala, Babylon, and Baghdad universities .The total number of the sample is (200) student in which they are selected randomly as 100 male and 100 female .

3.2 Instruments of the Study

After reviewing numerous previous studies related to the research topic, particularly the four language skills and various types of thinking, the researcher decided to select two tools to measure the levels of constructive thinking and reading comprehension. The following is a detailed explanation of these tools.

3.2.1 Measurement of Constructive Thinking

To assess students' constructive thinking(Epstein's1998 Constructive Thinking Inventory (CTI) is used. It is originally developed in 1989 by U.S. psychologist Seymour Epstein and refined by him in 1998. It is a self-report in which the items were grouped into six main categories, emotional coping , categorical thinking, esoteric thinking, personal superstitious thinking, naive optimism, and behavioral coping , It consists of 30 self-statements about thoughts and behavior to which participants respond using a 5-point likers scale format -ranging from completely false to completely true (Epstein,1998 :36- 42).

3.2.2 Measurement of Reading Comprehension

To measure students' reading comprehension , a test is adopted from (Abbas, and AL-Musawi, 2020), the test consists of a reading passage followed by 10 multiple-choice items. For each item, students are asked to choose the correct answer out of four options. See(Abbas, and AL-Musawi, 2020).

3.3.1 Face Validity

Face validity refers to the degree to which a test appears to measure what it is intended to measure. In other words, it reflects the accuracy, transparency, and relevance of the test based on its surface appearance, ensuring that it aligns with the intended learning outcomes and objectives, as perceived by students and experts alike (Lodico et al. ,2006:p. 78-88). According to Marczyk et al. (2005: 164), validity refers to whether the measurement approach used in the study accurately measures what it is intended to measure, ensuring its relevance and appropriateness for the research objectives.

Nevertheless, Face validity refers to the familiarity of the instrument and how easily it can convince others that it possesses content validity, ensuring that the test seems to measure what it is intended to measure at first glance. It helps establish initial trust in the test's relevance and appropriateness. (Mackey and Gass, 2005:107). Accordingly, constructive thinking scale and reading comprehension test are presented to a jury of eight educational psychology specialists. The jury members all agree that the scale items are appropriate and legitimate.

3.4.5 Reliability

Reliability refers to the consistency and dependability of a measurement technique. It is concerned with the stability of the scores obtained from a measurement or assessment across different times, settings, or conditions. When a measurement is reliable, it reduces the likelihood that the scores are influenced by random errors or external factors. In essence, reliable measurements produce consistent and repeatable results. Reliability is typically quantified through a correlation coefficient, a statistical measure that reflects the strength and direction of the relationship between two sets of variables, offering insight into the consistency and accuracy of the assessment method. (Marczyk, et al, 2005: 103).

To assess the reliability of both the constructive thinking test and the reading comprehension test, the analysis of variance method is applied, utilizing the Cornbrash's Alpha formula. The constructive thinking test yielded a reliability coefficient of 0.902, which is considered a high level of reliability, while the reading comprehension test showed a reliability coefficient of 0.910, also deemed to be a very strong and dependable measure. These results indicate that both tests provide consistent and trustworthy assessments of the intended constructs.

4.Results, Conclusions, and Recommendations

The following presents the data analysis and results based on the statistical processing of the data collected through the tools used for managing and evaluating the research instruments. This analysis aims to provide a clear understanding of the findings, ensuring accuracy and relevance in interpreting the results.

4.1 Results Related to the First Aim

The first goal of the study is to assess the constructive thinking levels of Iraqi EFL university students. To determine the significance of the statistical differences between the sample's mean scores and the hypothetical mean of the scale, the researcher employed a one-sample t-test. The findings reveal that EFL university students exhibit low levels of constructive thinking. The calculated t-value of 5.3 indicates a statistically significant difference between the sample mean and the hypothetical mean, as compared to the tabulated t-value of 1.960 at a significance level of 0.05 and a degree

of freedom of 198. These results are presented in Table (1), illustrating the meaningful discrepancy.

Table (1):
Results of T-Test for One Sample to Identify the Level of students' constructive thinking.

Sample	mean	Standard deviation	hypothetical mean	T-value		Level of significant	Judgment
				Calculated	Tabulated		
200	1.22	5.3	25	8.97	1,960	0,05	significant

Accordingly, the average score of constructive thinking is (22.1), which is noticeably lower than the hypothetical mean (25), clearly indicating that the students' level of constructive thinking is generally low and below the expected standard.

4.2 Results Related to the Second Aim

The second aim of the study is to explore the reading comprehension levels of Iraqi EFL university students. The results reveal that the students' reading comprehension is low, as the calculated t-value of 15.43 indicates a statistically significant difference between the sample mean and the hypothetical mean. To determine the significance of the statistical differences, the researcher used the one-sample t-test, comparing the arithmetic mean of the sample's scores with the hypothetical mean. This analysis indicates that the observed discrepancy favors the hypothetical mean. The detailed results are shown in table (2), providing clear evidence of this difference.

Table(2): **Results of T-Test for One Sample to Identify the Level of Iraqi EFL university students' reading comprehension .**

Sample	mean	standard deviation	Arithmetic Mean	T-value		Level of significance	Judgment
				Calculated	Tabulated		
200	6.8	2.1	10	15.43	1,960	0,05	For th mean

Accordingly, the average score of reading comprehension is (6.8), which is significantly lower than the hypothetical mean (10), clearly reflecting that the students possess a relatively low level of reading comprehension skills, and they may face challenges in understanding and analyzing written texts effectively.

4.3 Results Related to the Third Aim

The third aim of the current study is to investigate the correlation between students' constructive thinking and their reading comprehension. To achieve this goal, the Pearson correlation coefficient was used to measure the relationship between the two variables. Additionally, the t-test was applied to assess the statistical significance of the estimated correlation coefficient. The calculated t-value was compared to the tabulated t-value of 1.960 at a significance level of 0.05 and with a degree of freedom of 198. This comparison confirms that the calculated t-value is statistically significant. The findings reveal a strong and statistically significant correlation between students' constructive thinking and reading comprehension, suggesting a meaningful connection between these two cognitive processes. The detailed results are presented in Table (3).

Table :(3) T-Value for the Significance of Calculated Correlation Coefficients Between constructive thinking and reading comprehension of Iraqi EFL university students

No.	Calculated correlation coefficient	T-Value		Level of Judgment Significance	Judgment
		calculated	tabulated		
200	0.62	12.15	1.960	0.05	Significant

Accordingly, the results indicate a strong and statistically significant positive correlation between students' constructive thinking and their reading comprehension abilities (r = 0.62). This finding verifies that students who exhibit higher levels of constructive thinking tend to perform better in reading comprehension tasks. It underscores the importance of fostering constructive cognitive strategies in educational settings to enhance students' overall academic performance, especially in reading-related skills.

Conclusions

In light of the study's findings, the following conclusions can be drawn.

-First. Iraqi EFL university students exhibit a low level of constructive thinking. This suggests that their ability to engage in reflective and analytical thinking while solving problems or interpreting information is underdeveloped.

-Second. Iraqi EFL university students also demonstrate low levels of reading comprehension, indicating difficulties in understanding and analyzing written texts effectively.

-Third. a strong positive correlation was found between Iraqi EFL university students' constructive thinking and their reading comprehension skills, implying that enhancing one could potentially improve the other. These results highlight areas for targeted educational interventions.

Recommendations

The following educational recommendations are made based on the research findings:

- Curriculum Development: The Ministry of Education should consider integrating curricula that priorities constructive thinking. The research has shown that constructive

thinking is directly associated with enhanced learning outcomes and improved reading comprehension among EFL students. By embedding this aspect into educational frameworks, students can be better equipped to engage in higher-order thinking, which is essential for mastering English as a foreign language.

-Teacher Professional Development: Iraqi EFL teachers should undergo continuous professional development focused on the different types of thinking, especially constructive thinking. Teachers need a deeper understanding of how different thinking styles influence student learning, and how these can be harnessed to improve students' reading comprehension skills. Professional development programmers should provide teachers with tools and strategies to foster an environment that encourages constructive thinking, thus contributing to overall academic success.

- Creating a Positive Learning Environment: It is essential for teachers to cultivate a classroom atmosphere conducive to the development of all forms of positive thinking. This includes fostering an environment that recognizes and respects individual differences in cognitive styles and thinking approaches. By catering to these differences, teachers can support students in developing their full cognitive potential, ultimately improving their reading comprehension skills. In this way, the learning environment becomes a crucial factor in helping students reach their academic goals.

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Abstract in Arabic

المستخلص:

تُعدّ عملية اكتساب اللغة الإنجليزية كلغة أجنبية قضية محورية لدى الباحثين والمربين على حد سواء، نظرًا للتحديات المستمرة التي تواجهها، مثل تدني نتائج التعلم، وبطء الفهم، وضعف كفاءة التدريس. وبما أن تعلم اللغة هو في جوهره عملية معرفية، فإن هذه الدراسة تسلط الضوء على الدور الحاسم للبُنى المعرفية – وبشكل خاص التفكير البنّاء – في تعزيز الكفاءة اللغوية، مع التركيز على مهارة الفهم القرائي.

تبحث هذه الدراسة في العلاقة بين التفكير البنّاء والفهم القرائي لدى طلبة الجامعات العراقية الملتحقين بأقسام اللغة الإنجليزية. وقد تم اختيار عينة عشوائية طبقية مكوّنة من 200 طالبًا وطالبة في المرحلة الثالثة (100 من الذكور و100 من الإناث) من ثلاث جامعات عراقية مختلفة. استخدمت الدراسة أداتين معياريتين: اختبار التفكير البنّاء المكوَّن من 30 فقرة (Epstein, 1998)، واختبار الفهم القرائي المكوَّن من 10 فقرات (-Abbas & Al Musawi, 2020).أظهرت النتائج تدنيًا عامًا في مستويات كل من التفكير البنّاء والفهم القرائي لدى المشاركين. كما تم التوصل إلى وجود علاقة ارتباط ذات دلالة إحصائية بين درجات الطلاب في اختبار التفكير البنّاء وأدائهم في اختبار الفهم القرائي. وتبرز هذه النتائج الدور الجوهري للمعالجة المعرفية في اكتساب اللغة الثانية، كما تؤكد على ضرورة دمج مهارات التفكير ضمن مناهج تعليم اللغة الإنجليزية بوصفها لغة أجنبية بهدف تعزيز الفهم القرائي والكفاءة اللغوية بشكل عام.