

The Impact of Question-and-Answer Relationship (QAR) Strategy on Iraqi EFL Learners' Ability in Comprehending Reading Texts

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تأثير استراتيجية العلاقة بين السؤال والإجابة (QAR) على قدرة متعلمي اللغة الإنجليزية كلفة

أجنبية في العراق على فهم النصوص القرائية

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Abstract

Reading is one of the four fundamental abilities of any language and is especially significant during the first phases of language acquisition, It represents a receptive skill that entails deciphering and comprehending a written content, The relevance lies in its status as a vital ability within the EFL setting; it is essential to the process of learning, stemming from the understanding that grasping the material received as input is a fundamental element in language acquisition, hence underscoring the critical role of comprehension in reading, The Question-and-Answer-Relationship (QAR) strategy enhances students' text comprehension abilities, When applied, it engages students in the material and enables them to comprehend how to respond to questions using the QAR strategy. This research examines the effectiveness of using the QAR strategy on the reading comprehension skills of Iraqi EFL learners; The current research assumes that there is no statistically important difference in the results of the experimental group, which was taught by adopting the QAR strategy, and control group, taught by standard methods, The study included a representative sample of 47 Iraqi EFL university students from the third year in the Department of English at the College of Basic Education during the second semester of the academic year 2024-2025. The participants were grouped into control and experimental groups, including 24 students in the experimental group and 23 students in the control group; The results demonstrate that this strategy significantly improves students' capacity to understand reading texts after implementing the experiment and administering the pre- and post-tests.

Keywords: strategy, learners, reading, comprehension.

الملخص:

تُعَدّ القراءة إحدى القدرات الأربع الأساسية لأي لغة، وتكتسب أهمية خاصة خلال المراحل الأولى من اكتساب اللغة. فهي تمثل مهارة استقبالية تتضمن فك رموز المحتوى المكتوب وفهمه، وتكمن أهميتها في كونها قدرة حيوية في سياق تعليم اللغة الإنجليزية كلفة أجنبية؛ إذ تُعَدّ ضرورية لعملية التعلم، انطلاقاً من فهم أن استيعاب المادة المُتلقاة كمدخلات يُعَدّ عنصراً أساسياً في اكتساب اللغة، مما يُبرز الدور الحاسم للفهم في القراءة؛

تُعزز استراتيجيات العلاقة بين السؤال والجواب (QAR) قدرات الطلاب على فهم النصوص، فعند تطبيقها، تُشرك الطلاب في المادة وتُمكنهم من فهم كيفية الإجابة على الأسئلة باستخدام هذه الاستراتيجيات؛ يبحث هذا البحث في مدى فعالية استخدام استراتيجية QAR في مهارات فهم القراءة لدى متعلمي اللغة الإنجليزية كلغة أجنبية العراقيين؛ ويفترض البحث عدم وجود فرق ذي دلالة إحصائية بين نتائج المجموعة التجريبية، التي تم تدريسها باستخدام تقنية QAR، والمجموعة الضابطة، التي تم تدريسها بالطرق التقليدية، شملت الدراسة عينة من ٤٧ طالبًا عراقيًا يدرسون اللغة الإنجليزية كلغة أجنبية في السنة الثالثة بقسم اللغة الإنجليزية في كلية التربية الأساسية خلال الفصل الدراسي الثاني من العام الدراسي ٢٠٢٤-٢٠٢٥؛ قُسم المشاركون إلى مجموعتين: تجريبية وضابطة، ضمت المجموعة التجريبية ٢٤ طالبًا، بينما ضمت المجموعة الضابطة ٢٣ طالبًا، أظهرت النتائج أن هذه الاستراتيجية تحسّن بشكل ملحوظ قدرة الطلاب على فهم النصوص المقرّوة بعد تطبيق التجربة وإجراء الاختبارات القبليّة والبعديّة.

الكلمات المفتاحية: استراتيجية، متعلم، لغة، إنجليزية، استيعاب، قراءة.

1. Introduction

1.1 Problem and Significance of the Study

Reading comprehension denotes the mental process by which humans understand and interpret the written text they encounter. Reading comprehension is the transfer of an ability improved for one kind of information (text) to another kind of information (listening, speaking, etc.); In contrast to auditory comprehension, reading comprehension is not a natural skill that the human brain has evolved to possess. Oral understanding seems to develop naturally with no deliberate effort, but reading comprehension is more challenging and needs particular instruction (Kirby, 2007).

Reading comprehension, which is essential for the academic achievement, sometimes presents considerable obstacles for students, resulting in issues in grasping fundamental concepts, discerning primary ideas, and responding to textual enquiries (Afriani et al., 2020); Students sometimes demonstrate passive participation in the learning environment when their reading abilities are inadequate, which might hinder their overall academic success (Jannah, 2022); Reading is a fundamental skill among the four essential competencies in English language acquisition. It is important for students studying English to develop this skill to obtain knowledge and academic information. Reading is crucial not only in educational settings but also in social contexts, since it is a need for everyone. Acquiring knowledge by reading is not as straightforward as many assume; it is a complicated process that presents several challenges, Likewise, the students have challenges in acquiring information, discerning the meanings of words within the text, and formulating conclusions about the written text (Wallace, 2004); Furthermore, EFL students' difficulty in comprehending texts is influenced by several internal and external variables. The internal variables include pupils' desire for learning, age, attitude, and learning style; The

external variable corresponds to the teacher's methodologies. Consequently, using a successful strategy is crucial for educators to address student-related issues. Employing a suitable technique may directly enhance students' reading performance (Raphael & Au, 2013).

The researcher noted that students in the English department face some difficulties in comprehending reading texts in the comprehension course, specifically long texts that require linking ideas together and interpreting them. He found that using the traditional method of lecturing, whether it be discussion or questioning, does not contribute to bringing about fundamental changes in students' understanding and comprehension. Therefore, the need arose to apply one of the strategies specific to reading comprehension.

To achieve this, educators must use specific strategies that facilitate students' comprehension of reading materials. One of these strategies is the Question-Answer-Relationship (QAR) technique, It is a reading approach whereby students classify comprehension issues based on the sources of information required to solve them. The QAR method delineates a triangular link among the question, textual information, and reader knowledge. The objective of the QAR technique is to enhance students' understanding of where to get the necessary material to address reading comprehension issues; The QAR technique assists students in constructing schemas for answering reading comprehension problems by offering an organizational framework that aids in visualizing whether the solutions are located in the written material or in their cognition (Pratiwi, 2020).

This strategy enables students to examine the reading assignment by recognizing a question form and a reading process that aligns with the question, so facilitating a correct response, The understanding of question types derived from the QAR strategy has shown efficacy in improving reading comprehension on assessments for students (Yatip & Itsara, 2024).

1.2 Aim

This study seeks to evaluate the effect of the QAR strategy on the reading comprehension skills of Iraqi EFL learners.

1.3 Limitations

The present research centered around third-year students (morning study) enrolled in an instructional course of reading comprehension course at the Department of English, College of Basic Education, University of Babylon, during the second semester of the academic year 2024-2025.

1.4 Hypotheses

To achieve the desired outcomes from the present study, it is hypothesized that:

1. "There is no statistically significant difference at the level of (0.05) between the mean score of the post-test result for both experimental group (who are taught via QAR strategy) and control group (who are taught according to the traditional method)".

2. There is no statistically significant difference at the level of (0.05) between the mean score of the results of the pre and post-test for experimental group to measure the effectiveness of QAR strategy on Iraqi EFL learners' ability in comprehending reading texts”.

1.5 Procedures of Conducting the Study

The researcher has adhered to the following methods throughout the execution of the present investigation to get the requisite results:

1. Reviewing the literature related to the topic, including an examination of previously completed research on this subject.
2. Choosing a representative sample for the study from the total population.
3. For the purpose of starting the experiment, the whole sample has been divided into the experimental and control group.
4. Administering the pre-test for the two groups to assess their existing proficiency of understanding reading materials.
5. Starting the application of the experiment via using the (QAR) strategy with the experimental group, and employing the conventional method with the control group.
6. Conducting the post-test to assess the performance of both groups at the end of the experiment.
7. The statistical analysis of the gathered data is conducted to derive the investigation's outcomes.

1.6 Basic Terms Definitions

1.6.1 Impact

Hearn and Buffardi (2016) define 'impact' as “the intentional and unintentional (positive or negative) changes (outputs, outcomes) occurring within the organization (both within and across its programs) over a specified duration (short-term or long-term) as a result of the organization's actions. It denotes all the expected alterations envisaged to arise from the implementation and application of a particular strategy decision or action. These repercussions may manifest over varying timeframes, affect different stakeholders, and have significance at many levels (regional, local, and national)”.

Operational Definition

In the current study impact refers to the effect that the QAR strategy has on Improving Iraqi EFL learners' ability in comprehending reading texts.

1.6.2 QAR Strategy

Aziz & Yasin (2017) describe the QAR technique as a pedagogical approach that pushes students to examine the reading assignment by recognizing the question type and the corresponding reading process necessary for correct responses, Understanding question types according to the QAR technique has been shown to improve reading comprehension on assessments among students.

Operational Definition

Due to this study, QAR strategy is an instructional strategy utilized by the instructor to evaluate its effects on learners' ability in comprehending reading texts.

1.6.3 Reading Comprehension

Reading comprehension is a complicated process in which readers must use both what they know and what they read to figure out what it means, In order to understand the material, the reader needs both the information in the text and what they already know (Merisuo & Storm, 2012).

Operational Definition

Reading comprehension is a multifaceted process whereby the reader must integrate information from the text with their prior knowledge to derive meaning. To understand the text, the reader need not just the information contained therein but also their prior knowledge (Merisuo & Storm, 2012).

2. Theoretical Background

2.1 QAR Strategy

The Question-Answer-Relationship (QAR) strategy, created by Taffy Raphael, aims to enhance students' comprehension skills and their capacity to respond to comprehension questions. It is a reading strategy in which students classify comprehension problems based on the sources of information required to solve them. Furthermore, using the QAR technique helps enhance students' enthusiasm in reading. Furthermore, the QAR technique might enhance students' confidence and engagement in responding to comprehension questions. It results in enhanced student performance on reading comprehension assessments (Aziz & Yasin, 2017).

Raphael et al. (2006) delineates the QAR strategy into three instructional phases: Initially, the Q-component demands that students identify question elements (i.e., principal concepts and clues) to serve as a basis for identifying question types and acknowledging material pertinent to formulating a response. The A-component demands that students categorize the question type (i.e., actual comprehension, reinterpreting, and inferences) according to the components of the method. The R-component requires that readers choose a reading method relevant to the question type indicated in phase A. The students thereafter determine the solution to a specific sort of enquiry using their understanding of the process of reading.

Furthermore, QAR has been established as a mechanism for elucidating how students might tackle the work of reading texts and responding to enquiries. QAR elucidates the correlation between questions and replies, categorizes various kinds and levels of enquiries, and demonstrates that the book does not provide all the answers, It aids students in understanding and comprehending the content by responding to the questions; QAR can address the four issues to improve students' reading levels: (1) The need for a common lexicon to clarify the mostly imperceptible mechanisms that underpin comprehension of reading and listening, (2) The requirement for a structured framework to systematically arrange enquiry activities and comprehension education

across various grades and academic disciplines, (3) The need for simple and straightforward comprehensive school reform in literacy education aimed at enhancing thinking at a higher level, and (4) The need to equip students for high-stakes assessments while maintaining an emphasis on advanced cognitive skills (Pratiwi, 2020).

In addition, it is a system for responding and producing questions that enhances comprehension by aiding students in understanding the many sorts of questions. Students understand that some issues have solutions that are explicitly stated in the text, others need critical thinking and research, and others can only be resolved by personal reflection, hence emphasizing the importance of contemplating the topic prior to formulating a response. QAR may be utilised during and after reading. This method enhances understanding by teaching students to formulate and respond to questions derived from the written content (Fordham, 2006).

2.2 Categories and Framework of QAR Strategy

According to Nurhayati et al. (2019), the QAR strategy encourages students to categorize questions based on the origin of their responses. The inquiry may be both explicit and implicit; Furthermore, there are two fundamental categories of QAR, termed "In the book" and "In my head." They may thereafter be classified into four distinct categories. These categories are:

1. Right there.
2. Think and search.
3. The author and you.
4. On my own questions.

It falls under the following categories:

1. Text-based inquires or "In the book"

- a. A right their enquiry; the answer is located in the text, often as a phrase inside a single sentence. Examples of questions include: Who is the primary character in this narrative? Where does the tale occur? In meanwhile, the measures that may be used to address these enquiries are (1) re-read, (2) scan, and (3) identify important terms;
- b. Think and search enquiries assist readers in locating answers within the text. The learner must integrate disparate bits or fragments of information to formulate a response, despite the solution being there within the text. The procedures used to address thought and search enquiries are: (1) skimming or reread, (2) identify significant material, and (3) summarize.

2. Questions that are based on the reader or "in my head"

- a. The author and me enquiry. When responding to the question, the student pulls on their prior experience in addition to reviewing what the creator has written in order to provide a response since the solution is not clearly mentioned in the text. The following are some instances of questions: "Based on the creator's title or the illustration, what could this text possibly be about?" There are three processes that need to be taken in order to answer questions from the author and me: (1) re-read,

(2) consider what you already understand and what the writer says, and (3) make a prediction.

- b. On my own enquiry. It demands that students reflect on their existing knowledge derived from reading and experience to construct a response. The "on my own" question is the final step of the strategy, which assists readers in formulating their personal responses for the enquiry. The question prompts are: What can ...? what if ...? how could ...? The procedures to independently address your enquiries are (1) reflect on your existing knowledge, (2) consider prior readings, and (3) establish connections.

Furthermore, Raphael and Au (2005) propose a number of activities for the QAR. These activities may be regarded as a framework of QAR, as seen in Table (1) below:

Table (1): Framework of QAR

Reading Activities	QAR	Comprehension Strategy	Question
Before Reading	On my own	Activating prior knowledge	From the title, what do you think that can connect you to the text?
	Author & me	Predicting Visualizing	What does the text tell you about? What is the text mainly about?
During Reading	Right there	Making simple and complex inferences	How would you describe the mood of the story?
	Think & search	Finding specific information	Who is the main character? How many characters in the text? Where does the story take place?
		Summarizing and making simple Inferences	What problem do you find in this story? What are the important events? What role do the characters play in the story?
After Reading	Author & Me	Distinguishing fact and opinion	What is the author's message? What is the moral message of the story?
	Think & search	Identifying important information	Find evidence in the text to support an argument.

2.3 Aims of QAR Strategy

The QAR's initial framework was depended on the question taxonomy developed by Pearson and Johnson (1978), The developers of the taxonomy suggested that enquiries should be contextualized, considering both the reader's prior knowledge and the text and. It was created to enable pupils to understand the correlation between responses and enquiries directly via the sorts of enquiries posed. The QAR approach assists students in evaluating material derived from texts or their own understanding. This method tries to enhance students' understanding of processes; It enhances their metacognitive skills to comprehend various question kinds and the correlation between questions and answers, this is the case where the distinction between QARs and typical question-answer formats commonly utilized in the Reading exam arises. The above strategy may serve as a method of reading widely utilized to develop the students' comprehension; it functions not only as a testing instrument but also as a means to assess students' knowledge. It assists students in identifying various question kinds and understanding the correlation between questions and their corresponding answers (Afriani et al., 2020).

2.4 Reading Comprehension

Reading comprehension is a complicated procedure whereby the reader must integrate information from the text with prior knowledge to derive meaning (Merisuo & Storm, 2012). To grasp the book, the reader need not only the information contained within it but also their prior knowledge; In addition, reading comprehension includes understanding the written word, what is being observed at, and figuring out what the text means. Comprehension also includes coming up with a reasonable way to understand a text; It encompasses two essential elements: active engagement with the text and the use of relevant prior information for interpretation. It suggests that previous information about the issue is crucial for reading comprehension. In summary, reading comprehension is a multifaceted process whereby the reader must integrate information derived from the content with their own prior knowledge to comprehend the written material (Aziz & Yasin, 2017).

It is a dynamic, continuous cognitive and productive process. It is a reciprocal process that synthesizes information from textual sources with the reader's existing knowledge, A reader seeks to comprehend the broader context of the written material rather than derive meaning from individual words or phrases. He contends that a reader has to connect concepts across phrases and get the intended meaning by using their own previous knowledge. Therefore, to be an excellent reader, one must establish reading objectives, assess comprehension, and contemplate their own knowledge (Wolley, 2011); Simultaneously, reading comprehension encompasses several definitions as articulated by specialists. Snow (2002) defines reading comprehension as the simultaneous extraction and construction of meaning via engagement with written language. Moreover, comprehension denotes the ability to grasp a written material by quickly obtaining the necessary information from it. Through reading, a

reader can identify the meaning, comprehend the primary concept, comprehend the text's structure, and uncover additional information included within the text.

2.5 Models of Reading Comprehension

Donoghue (2009) states that theorists have identified three fundamental models of reading comprehension: bottom-up, top-down, and interactive. The bottom-up method of instruction has shown its efficacy via eye-movement experiments, with objectives of automatic word identification and accelerated reading pace, Readers are passive consumers of textual information, with emphasis on particular linguistic forms rather than the overall meaning of the text, ranging from phonemes to lexical and syntactic levels. The top-down model, in contrast, adopts an opposing stance, positing that the reader's interests, knowledge of the world, and reading abilities are the primary determinants of reading comprehension. The reader consciously regulates the comprehension process, guided by their objectives, anticipations, and strategic methodologies. The interactive method is founded on schema theory, which elucidates how readers acquire, retain, and use knowledge via schemata (mental frameworks for organizing information). This method aims to instruct students in tactics that foster their development as autonomous readers capable of self-monitoring their thought processes while reading and connecting existing knowledge to new content in their texts.

2.6 Teaching of Reading Comprehension

English teachers are vital in assisting English language students in enhancing their reading comprehension abilities. Consequently, it cannot be taught in isolation due to its complexity; Moreover, reading encompasses not only the ability to recognize written or printed words but also the capacity to articulate their meaning and construct a coherent understanding of the text (Mohamad et al., 2025).

Teaching is a complex process that facilitates the transmission of information from instructor to student, therefore constructing a foundation of understanding that influences behaviors and decision-making. Teaching is designed to assist pupils in acquiring information swiftly and precisely; Nurhayati et al. (2019) posits that teaching involves creating circumstances that facilitate the transmission of information between educators and learners, necessitating occasional manipulation of these settings to achieve desired conditions. Teaching is a method of assisting learning designed to assist pupils in achieving educational objectives. Students should concentrate on comprehending the substance of the text, rather than the only language, and making predictions is an important part of reading. Additionally, readers must align activities with subjects. Ultimately, effective educators use the material comprehensively.

Pearson and Cervetti (2017) declared that reading encompasses not just the articulation of sounds or words, but also the understanding of the emotions, concepts, and messages embedded inside a book. Reading and understanding are inherently interconnected. Reading seems to be the process of figuring out what is being read by analyzing individual words, phrases, and sentences. The interconnection between

reading and comprehension makes the instruction of reading in EFL classrooms a challenging endeavor. Consequently, reading comprehension is seen as the moment when readers can evaluate the material they encounter, relate it to their prior knowledge, and make informed judgements based on their reading. Therefore, readers must acquire ways to understand a book and engage in strategic reading.

2.7 Strategies in Teaching Reading Comprehension

Strategies of reading are characterized as methods for comprehending the general meanings of the written texts. The methods reading are used selectively throughout the reading process and are mostly within intended control of the reader. Numerous ways exist for enhancing reading comprehension. Bouchard (2005) categorizes the strategies of reading into three main types: metacognitive strategies, cognitive strategies, and socio-affective strategies.

a. Metacognitive strategies:

They refer to the awareness of one's own knowledge and the regulation of one's cognitive processes.

b. Cognitive strategies:

They include forming conclusions, visualizing, and forecasting throughout the process of reading.

c. Socio-Affective strategies:

They are defined by collaborative learning and the solicitation of clarifications via enquiries.

2.8 Previous Studies

2.8.1 Aziz & Yasin (2017)

This research was conducted with the purpose of determining the impact that the (QAR) strategy has on the skills of reading comprehension of (EFL) students who are enrolled in eighth grade of junior elementary school in Solok, West Sumatera, Indonesia. A quasi-experimental approach was used in the design of the study. For the purpose of this study, the population consisted of eighth-grade students, who were divided into 11 classes totaling 356 individuals. The sample size that was chosen was sixty-four students, with thirty-two students belonging to each of the groups. According to the findings of this study, the students who were instructed using the QAR technique had a higher level of reading comprehension compared to the students who were instructed using the traditional technique.

2.8.2 Nurhayati et al. (2019)

The purpose of this research was to assess the impact that implementing the (QAR) strategy had on the teaching of reading comprehension to students in their third year. This research used the experimental technique, and the sample consisted of two classes: a control group with 21 students, and an experimental group with 23 students. Based on the findings, it was found that the students' reactions to the implementation of the QAR technique in the process of acquiring reading comprehension were

relatively favorable (80.9%). It can be concluded that the QAR strategy is an efficient way to help students understand what they read.

2.8.3 Afriani et al. (2020)

This study sought to examine the effect of (QAR) strategy on improving reading comprehension of students. This research used a quasi-experimental design. The study sample included 30 students from the X hospitality accommodation of the 10th grade, The tool used in this study included 20 validated multiple-choice questions related to narrative literature. The data obtained from the pre-test and post-test were analyzed via a t-test. The findings demonstrated that the QAR technique may function as an effective strategy in instructing reading to the students.

2.8.4 Zulfitri & Tiya (2023)

This study aimed to gather information about the efficacy of using QAR strategy in regard to the students' reading proficiency in descriptive texts. This study used quantitative research methodologies employing experimental design. The study sample was obtained by a random selection method, including 70 students split into an experimental group and a control group. After completing of the experiment, the students were administered a post-test. The data from the two classes is analyzed using a t-test, The average outcome of the post-test indicated an enhancement compared to the pre-test result, and these results indicate the effectiveness of QAR strategy.

2.8.5 Mohammed & Saleh (2024)

This research intended to investigate the impact of the Question Answer Relationship strategy on the academic performance of Iraqi EFL intermediate students and its influence on enhancing their reading comprehension skills. The sample for the present research comprises 60 randomly selected second-grade pupils from Intermediate School for Boys; Various statistical methods, such as the T-test and weighted mean, were used to measure the students' performance. Following the statistical analysis of the data, the findings indicated that the QAR technique significantly impacts students' achievement.

2.9 Previous Studies Discussion

Based on the findings of previous studies, the researcher has benefitted from them in conducting the current study, beginning with the selection of an appropriate strategy (QAR Strategy) to measure its impact on the reading comprehension of English language learners. However, the researcher chose a different sample than those mentioned in the previous studies, i.e., selecting university students, as the researcher is a faculty member at the university and has direct experience with the challenges students face in the reading comprehension course. It is worth mentioning that all the previously explained studies have made valuable contributions to the field of education at the primary, intermediate, and secondary levels, in addition to the university level, which will be discussed in the current study.

3. Methodology

3.1 Method of Study

This study employed an experimental method to determine the efficacy of the QAR strategy by means of pretest and posttests. This design enables researchers assessing the final posttest results for the two groups, reflecting the total efficacy of the experiment. Furthermore, the researcher can also look at how much each group changed between the pretest and the posttest and see if a single, both, or neither has made progress over the time. If the control group shows a significant improvement, the researcher must investigate the underlying causes that are causing this to happen. The researcher might also look at how well the randomization process worked by looking at the findings of each pre-test group (Mertler, 2015).

3.2 Sample and Population

According to Best and Khan (2006), a population is considered "a group of individuals possessing at least one particular feature that sets them apart from others. The properties of these groups deserve examination by researchers". A sample, on the other hand, is considered a process of selecting a specific subset from the overall population, that encompasses the entirety for components from which the sample is derived. Johnson and Christensen (2016), on the other hand, define the sample as "a subset that precisely represents the total population that consists of elements selected from a larger population due to specific criteria."

The overall population of this study consists of 111 students (male and female), from which the researcher has randomly selected a sample of (47) students to represent the study's sample. Subsequently, he divided it into two groups: the experimental group, which consisted of (24) male and female students, and the control group, which consisted of (23) male and female students, as illustrated in Table (2) below:

Table (2): Sample of Study

No.	Groups	No. of Students
1	Experimental	24
2	Control	23
3	Total	47

3.3 Implementing the Experiment

The researcher first split the research sample of 47 students into two groups: an experimental group of 24 students and a control group of 23 students, after controlling for the students' ages in both groups, A pre-test was given to students in both groups to determine their reading comprehension abilities and proficiency; The responses were then graded, and the data was gathered for further study. The experiment was then carried out by the researcher during the course of the second semester of the academic year 2024-2025, which took around two months; The experimental group was taught utilizing the QAR strategy, which was based on Raphael and Au's (2005) model, as indicated before in the research's theoretical framework; The control group was taught

using standard methods. After conducting the experiment, the researcher performed the posttest for both groups in order to determine the improvement level of the students' reading comprehension, which was then compared to the pre-test findings, The data was then statistically analyzed utilizing t-test.

4. Results

4.1 First Null Hypothesis Results

To examine the second hypothesis, that asserts “*There is no statistically significant difference at the level of (0.05) between the mean score of the post-test result for both experimental group (who are taught via QAR strategy) and control group (who are taught according to the traditional method)*”, the t-test for two independent samples has been applied by the researcher to confirm the results. The students of both groups have been exposed finally to the posttest at the end of the course to measure the impact of QAR strategy on students' reading comprehension;. The arithmetic mean, variance, and standard deviation have been calculated after gathering and analyzing the scores, as illustrated in Table (3):

Table (3) T-test Results for the First Hypothesis

Groups	N	Mean	Standard Deviation	V	DF	T-test Value		Sig.
Experimental	24	39.33	5.55	30.80	45	Cal.	Tab.	0.0016
Control	23	34.30	4.92	24.21		3.34	2.01	

Based on the above table data, it has been observed that the mean score of the experimental group is (39.33) with a (5.55) standard deviation value, while the mean score of control group is (34.30) with a (4.92) standard deviation value; and the measured T-test value is (3.34), which is higher than the tabulated one (2.01) with a (45) degree of freedom. The statistical data show that the correlation between the two post-tests for the two groups is statistically significant in regard of the experimental group. It demonstrates that the using of QAR strategy resulted in a notable progress for the experimental group students' ability in comprehending reading texts than the control group students who were not instructed according to this strategy. So, there is no significant difference at the level of 0.05, and therefore the null hypothesis is neglected and the alternative one approved.

4.2 Second Null Hypothesis Results

In order to examine the third hypothesis, that asserts “*There is no statistically significant difference at the level of (0.05) between the mean score of the results of the pre and post-test for experimental group to measure the effectiveness of QAR strategy on Iraqi EFL learners' ability in comprehending reading texts*”, the t-test for two paired samples has been applied by the researcher to confirm the outcomes. The experimental group students have taken both pretests and posttests to see if the QAR technique affects their ability to comprehend what they read. After gathering and comparing the tests scores, arithmetic mean, the variance, and standard deviation were calculated, as illustrated in Table (4):

Table (4): T-test Results for the Second Hypothesis

Groups	N	Arithmetic Mean	Standard Deviation	Variance	DF	T-test		Sig.
Pretest Experimental	24	35.96	6.02	36.24	23	Cal.	Tab.	0.00002
Posttest Experimental	24	39.33	5.55	30.80		5.31	2.07	

Depending on the above table data, it has been concluded that the pretest mean score of the experimental group is (35.96) with a (6.02) standard deviation value, while the posttest mean score of the experimental group is (39.33) with a (5.55) standard deviation value; and the measured T-test score is (5.31), which is higher than the tabulated one (2.07) with a (23) degree of freedom. These results reveal that the correlation between the both pre- and post-tests of the experimental group is of statistical significance in respect of the post-test result. It suggests that the use of QAR strategy resulted in an improvement in students' reading comprehension during the experiment course, since the students' post-test scores increased considerably. As a consequence, there is a statistically significant difference at 0.05, therefore the null hypothesis is rejected and the alternative hypothesis approved.

4.3 Results Related to the Previous Studies

The previous studies presented earlier will be discussed alongside the general framework of this research. This discussion will cover a number of important points, such as the study's subject matter and goals, the individuals it is meant to contribute to, and the methods it proposes to use to collect data. This study has also drawn upon relevant previous studies within their theoretical framework.

The present study is consistent with all prior studies on the effectiveness of the QAR strategy, which is widely accepted as an effective strategy for improving students' ability in comprehending reading texts. In terms of study objectives, this study intends to determine the impact of using this strategy on improving university students' ability in comprehending reading texts, whereas previous studies had other goals. The study of **Aziz & Yasin (2017)** aimed to identify the effects of QAR strategy on reading comprehension ability of EFL students. The study of **Nurhayati et al. (2019)** aimed to look at how adopting the QAR strategy affected teaching reading comprehension of intermediate students. The study of **Afriani et al. (2020)** aimed to find out the effect of QAR strategy in increasing students' reading comprehension. The study of **Zulfitri & Tiya (2023)** intended to obtain information regarding the efficacy of employing QAR strategy relationships in relation to students' reading proficiency in descriptive texts, while the study of **Mohammed & Saleh (2024)** sought to determine the effect of the QAR strategy on the academic performance of Iraqi EFL intermediate students and to assess its influence on enhancing their reading comprehension skills.

Regarding research sample, this study is also consistent with the previous ones in terms of the targeted sample, as they all include a sample of students at different

educational levels (intermediate, preparatory), and the number of samples varies from one study to another. The current study sample consists of (47) university students, while **Aziz & Yasin (2017)** included (64) eighth grade of junior high school students, **Nurhayati et al. (2019)** involved (44) third-year of intermediate stage students, **Afriani et al. (2020)** consisted of (30) students of X hospitality accommodation, **Zulfitri & Tiya (2023)** comprised (70) students, and **Mohammed & Saleh (2024)** included (60) students from the second intermediate school. The only current study comprises a sample from the university students.

The current study adopted the experimental method, with pre and posttests to get the required results. This adopted method is consistent with the studies tackled by **Nurhayati et al. (2019)**, **Zulfitri & Tiya (2023)**, and **Mohammed & Saleh (2024)**, while it differs from the studies of **Aziz & Yasin (2017)** and **Afriani et al. (2020)** for they have adopted the semi-experimental method.

The outcomes of the current study align with previous investigations, all of which illustrate the efficacy of the QAR strategy in enhancing the reading comprehension skills of EFL students, as evidenced through the statistical analyses and results presented.

5. Conclusions

In conclusion, the QAR strategy's integration into Iraqi EFL university reading comprehension courses demonstrates substantial pedagogical value in the development of students' self-directed learning and higher-order thinking skills. Students' capacity to think critically, rather than superficially, about written materials is enhanced by QAR because it teaches them to distinguish between text-based and knowledge-based questions. By following this structured strategy, students are able to improve their comprehension and self-awareness, two key components in developing effective reading techniques for any given assignment. The results demonstrate that the QAR technique enhanced the experimental group's reading comprehension. A statistical comparison of the post-test scores of the control and experimental groups revealed statistically significant differences.

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