

Using Read, Encode, Annotate and Ponder (REAP) Strategy to Enhance EFL Reading Comprehension Skills and Critical Thinking Disposition of First Grade Secondary School Students

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This research aimed at using REAP strategy to enhance EFL reading comprehension skills and critical thinking disposition of first year secondary school students. Sixty-three (63) first-year secondary school students from Abu Bakr Al Siddik Secondary Combined School, New Damietta, Damietta, Egypt participated in the study. The research's design was quasi-experimental. Hence, a control group (n= 30) and an experimental group (n= 33) were both present. A critical thinking disposition scale, an EFL reading comprehension skills exam, and a checklist of EFL reading comprehension skills were used to collect the data. The research's findings revealed a statistically significant difference between the experimental group's mean scores and those of the control group for first-year secondary school students' EFL reading comprehension skills and critical thinking disposition. Utilizing REAP was proven to have a large impact. According to the research, training EFL students reading comprehension skills using the REAP strategy will help them better understand the content.

Key Words: REAP Strategy, EFL Reading Comprehension Skills, Critical Thinking Disposition.

استخدام إستراتيجية القراءة والترميز والشرح والتأمل (ريب) لتنمية مهارات الفهم القرائي باللغة الإنجليزية ونزعات التفكير النقدي لطلاب الصف الأول الثانوى

إعداد

الدكتورة/ هبه مصطفى المنسي

مدرس بقسم المناهج وطرق تدريس اللغة الإنجليزية

كلية التربية-جامعة دمياط

المستخلص

يهدف البحث إلى استخدام إستراتيجية القراءة والترميز والشرح والتأمل (ريب) لتنمية مهارات الفهم القرائي باللغة الإنجليزية ونزعات التفكير النقدي لطلاب الصف الأول الثانوى. شارك في البحث ثلاثة وستون (٦٣) طالبًا بالصف الأول الثانوي من مدرسة أبو بكر الصديق الثانوية المشتركة بدمياط الجديدة- دمياط ، مصر. اعتمد البحث تصميم البحث شبه التجريبي، ومن ثم كانت هناك مجموعتان: مجموعة تجريبية مكونة من (٣٣) طالب وطالبة ومجموعة ضابطة مكونة من (٣٠) طالب وطالبة. واشتملت أدوات ومواد البحث على استبانة بمهارات الفهم القرائي ، اختبار مهارات الفهم القرائي، ومقياس نزعات التفكير النقدي. قامت الباحثة بتدريس المجموعة التجريبية باستخدام إستراتيجية القراءة والترميز والشرح والتأمل (ريب) بينما تم تدريس المجموعة الضابطة من خلال أسلوب التدريس التقليدي المعتاد. وأوضحت نتائج البحث وجود فروق ذات دلالة إحصائية بين متوسطي درجات المجموعة التجريبية والمجموعة الضابطة في مهارات الفهم القرائي باللغة الإنجليزية كلغة أجنبية ، ونزعات التفكير النقدي لدى طلاب الصف الأول الثانوي لصالح المجموعة التجريبية. ووجد أن حجم تأثير استخدام إستراتيجية القراءة والترميز والشرح والتأمل (ريب) مرتفع. حيث يوصي البحث باستخدام الإستراتيجية كمدخل لتدريس مهارات الفهم القرائي باللغة الإنجليزية كلغة أجنبية لتعزيز فهم النص.

الكلمات المفتاحية: إستراتيجية القراءة والترميز والشرح والتأمل (ريب)، مهارات الفهم القرائي باللغة الإنجليزية، نزعات التفكير النقدي.

**Using Read, Encode, Annotate and Ponder (REAP) Strategy
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1. Introduction

English is a language used as a means of communication, both oral and written. In order to comprehend and communicate ideas, thoughts, and feelings, children need to be proficient in language skills. When reading comes to education and instruction, students tend to place the most emphasis on it as one of these skills. It serves the purpose of helping students acquire additional information and knowledge (Deviyanti, 2020).

Reading comprehension is the level of grasping the concepts introduced in the written text. The relationship of reader's outside information as well as the content affects how well they understand it. This is an activity designed to assist students in understanding literature, and text comprehension mostly focuses on the reader and the material being read. If students can summarize the key ideas of the material, have read it without having to read it afterwards, and depending on their prior knowledge to acquire the information, they are said to have understood the text. In addition, it refers to a process of extraction and construction of meaning simultaneously from a text by involving and interacting with the written language (Cornldi & Oakhill, 2013).

The form levels of comprehension include literal comprehension, wherein readers must process what is written; interpretation comprehension, wherein readers must interpret the data based on the writer's intended meaning. Whereas, in critical comprehension, students must combine their ideas with textual facts and assess their past knowledge and experience in order to produce new data; and creative comprehension depends on developing students' original idea from the passage. Especially for experienced readers, comprehension does not come naturally from reading; instead, readers must purposefully look for the text's meaning. Comprehension emphasizes the significance of a purposeful exchange with the written content and the listener. Along with this actively initiated engagement, comprehension also calls for a

command of language, the ability to recognize and retain text's specific facts (Sencibaugh, 2007; Garner and Bochna, 2004; Alexander and Jetton, 2000).

In Egypt, English is regarded as a foreign language (EFL). For Egyptian students, reading comprehension is essential for both their academic work and for finding employment once they graduate. Reading comprehension is occasionally sacrificed in favor of question-answering. The Egyptian students just read the text, then reread it from the beginning to look for the answers when they are asked questions about it. Additionally, students' knowledge is less advanced because teachers haven't yet discovered a method or an approach for teaching reading comprehension, they have solely used the question and response method (Rungwaraphong, 2020 & Mostafa, 2019).

Handayani, Martina, and Rizal (2021) stated that students still have trouble understanding the material when they are reading; for instance, learners may know how to pronounce the words but not their meanings. The learners can use the dictionary to determine the definition, but they struggle with defining each paragraph's content. Students who read for pleasure experience boredom and frustration because they find it challenging to understand what they are reading. Therefore, it is recommended that teachers use a variety of tactics to expose and inspire language learners. One reading comprehension technique known as REAP has been shown that it improves students to comprehend the texts that they are reading and their ability to read critically.

REAP is a strategy that supports the reading process by turning incomplete meanings into persuasive conclusions with the aid of students' knowledge, guiding them throughout and after the reading process, and fostering in them the habits of engaged readers who are capable of comprehending and embracing the author's perspective whether or without the teachers' guidance. According to reading phase, the learners are going to read in accordance with the fundamental linguistic standard. Meanwhile, the encode phase helps learners in comprehending the text and make some codes about the main ideas they take away from it. Then, by adding quotes, phrases, or other words, the annotate stage draws students' attention and makes reading more pleasant by helping them understand unknown vocabulary in the text. The final phase, ponder refers to the relationship between the texts and the pupils' comprehension of the materials. (Ya'acob et al, 2020; Mahdavi & Tensfeldt, 2013 & Tasdemir, 2010).

When students utilize their own expertise to summarize the primary idea of the text, it is a successful method that encourages critical

thinking on their own. The REAP Strategy phases provide learners with the chance to gain knowledge and rehabilitate their critical thinking abilities. The students connect the knowledge they currently have with prior knowledge they have just acquired through REAP to reconstruct their own critical thinking and understanding (Robb, 2003). Making decisions through the process of critically analyzing and assessing information is known as critical thinking. It encourages learners to be curious and to think critically while also developing their mental faculties (Vered, 2016 & Rezaei et al, 2011).

Context of the Problem

Although many researchers confirmed the necessity of reading comprehension for acquiring knowledge and experience in learning language, the students' weak ability in reading comprehension is considered a major factor that makes comprehension and critical thinking disposition difficult. Studies conducted by Elmansi et al (2019), Ahmed (2018), El Dwil (2017), Elkomy (2016), El-Dengawy (2012), Khalaf (2010) and Elshirbiny (2007) asserted that EFL students face many problems in reading comprehension skills (RCS) that impede their development in comprehending the text. To investigate the problem, the following pilot studies have been carried out:

Pilot study:

- 1) An EFL RCST was administered to a sample of 30 first-year secondary school students.

Table 1: RCST Results

Reading Comprehension Skills Test	Students No	Mean scores	St. Deviation	(M) Ratio (%)
	30	7	0.901	28%

According to the pilot study's findings, 28% of learners demonstrated low ability.

- 2) A critical thinking disposition scale applied to measure students' level.

Table 2: Critical Thinking Disposition Scale Results

Critical Thinking	Student No	Mean scores	St. Deviation	(M) Ratio (%)
	30	5	0.901	25%

Students' results were 25% which pointed to students' low ability in critical thinking disposition.

Statement of the Problem

Literature review, results of pilot studies and researcher's experience as a teaching practice supervisor demonstrated that first grade of secondary school learners have problems in comprehending the

reading texts. Students' marks in the RCST revealed students' problems in determining text's main idea, locating reference (pronouns), extracting new words meaning from the context, making inference through combining text clues with students' background knowledge and identifying specific information. These problems affect comprehension to read critically. Thus, the research recommends using REAP strategy to enhance students' RCS and critical thinking disposition.

Research Questions

This research attempted to answer the following main question:

"How could REAB strategy contribute to enhancing EFL first year secondary school students' reading comprehension skills (RCS) and their critical thinking disposition?"

The main question was followed by these sub-questions:

- 1- what is the current level of first year secondary school students in EFL reading comprehension skills?
- 2- What are the appropriate RCS needed for first year secondary school students?
- 3- What are the components of REAP strategy suggested for enhancing first year secondary school students' EFL reading comprehension and critical thinking disposition?
- 4- What is the effect of the proposed strategy on enhancing first year secondary school students' EFL reading comprehension skills?
- 5- What is the effect of the proposed strategy on enhancing first year secondary school students' critical thinking disposition skills?

Purpose of the Research

The following is a list of the research's purposes:

1. To conduct investigation about the impact of utilizing REAP strategy on enhancing secondary school students' RCST and critical thinking disposition.
2. To increase students' and researchers' knowledge of how REAP promotes reading comprehension and a critical thinking disposition in EFL contexts.

Significance

The following highlights the significance of this research:

1. provide useful literature related to using REAP strategy with RCS and critical thinking disposition.
2. Provide teachers and instructors with new teaching strategy that might enhance RCS and critical thinking disposition.

3. Provide curriculum designers and decision makers in the educational institutions with a reference for applying REAP strategy.
4. Offer a guide about using REAP phases in developing reading comprehension skills and critical thinking disposition.

Delimitations

This research was delimited to:

1. Students of first year secondary school, Abu Bakr Al-Siddiq Secondary Common School, New Damietta, Egypt.
2. A limited duration for implementing REAP strategy (second semester 2022-2023, nearly month).
3. The researcher designed six sessions depending on REAP strategy to enhance some RCS and critical thinking disposition required for first year secondary school students.

Hypotheses

The following hypotheses were put to the test in this research:

1. There is no statistically significant difference between the mean score of the experimental group and that of the control group in the pre administration of the RCST.
2. There is a statistically significant difference at $\leq (0.05)$ level between the mean score of the experimental group and that of the control group on the post administration of the EFL RCS test in favor of the experimental group.
3. There is a statistically significant difference at $\leq (0.05)$ level between the mean score of students of the experimental group on the pre and post administration of EFL RCS test in favor of the posttest.
4. There is no statistically significant difference between the mean score of the experimental group and that of the control group in the pre administration of the critical thinking disposition scale
5. There is a statistically significant difference at $\leq (0.05)$ level between the mean score of the experimental group and that of the control group on the post administration of the critical thinking disposition scale in favor of the experimental group.
6. There is a statistically significant difference at $\leq (0.05)$ level between the mean score of students of the experimental group on the pre and post administration of critical thinking disposition scale in favor of the post scale.

7. There is a positive correlation between the scores of the students in the post administration of each of the EFL RCS test and the critical thinking disposition scale.

Operational Definition of Terms:

1. REAP Strategy

The researcher defined REAP as a cognitive enrichment strategy that instructs first year secondary stage students how to analyze the texts more carefully and thoroughly through reading the text to get the theme, encode the theme by using their own words, annotate through writing the main idea and ponder the text meaning to enhance learners' RCS and critical thinking disposition.

2. Reading Comprehension Skills

The operational definition refers to the ability of first year secondary school students to comprehend the text through connecting the knowledge they have with the text information to understand the text following the four steps of REAP strategy.

3. Critical Thinking Disposition

It can be defined operationally as the tendency of first year secondary school students to think critically through asking questions obviously and understanding the thoughts of other people well. In addition, it refers to the mental habits of the students to behave adaptably toward the reading text.

2. Review of Related Literature

2.1 Read, Encode, Annotate and Ponder (REAP) Strategy

2.1.1 Nature of REAP Strategy

REAP is a strategy that involves a cognitive enrichment approach. By following the four steps—read, encode, annotate, and ponder students to think more precisely and thoroughly about the material they want to read through having them follow the four-step process represented by the acronym REAP: Read, Encode, Annotate, and Ponder. This indicates that there are four steps to the REAP strategy. Students should first read the text, then they should encode it in their own language by taking the essential ideas. The next step is to annotate, which involves the students to make notes regarding the passage. Ponder is the final step, where students talk with friends or other group members to create a quick summarize and get a moral from the material, they just read (Sholihah, 2017; Freaht & Smadi, 2014; Manzo, A; U. Manzo & Jacksons, 2002). The following table illustrates a demonstration of the REAP strategy steps:

Table 3: A demonstration of the REAP strategy steps (Sholihah, 2017:25)

<p>R: Reading Title of the text</p>	<p>E: Encoding - Main ideas - Difficult vocabularies = synonyms</p>
<p>A: Annotating - General classification - Description</p>	<p>P: Pondering - Questions to be discussed with group - Summary or conclusion</p>

According to Eanet and Manzo (1976), REAP ensures purposeful reading and promotes writing and thinking obviously through imprinting knowledge in long-term memory. In other words, it improves students' discussion and concepts through motivating learners to express the text's main idea from their point of view both verbally and in writing to help readers build their autonomous reading skills. Whereas, Allen and Janet (2004) asserted that REAP can aid students in comprehending a reading text because it provides a means for them to return to the text and then concentrate on the REAP chart to elaborate main points they learned. With the help of the REAP strategy, readers can improve their ability to read independently by being prompted to express the passage's key idea both orally and in writing. A strategy for improving reading and writing skills is the REAP strategy. There are many advantages to annotating. Annotating texts enhances student attention and turns reading into a more engaging activity, in addition to giving the text greater significance. Writing annotations helps information processing, which in turn promotes memory registration. (Ranette , 2016 & Manzo, A & U. Manzo, 1976).

2.1.2 Using REAP to Teach Reading Comprehension Skills

It's crucial for teachers to promote students to read English-language materials for a variety of reasons. Understanding what reading is essential to being a successful reader. Reading comprehension is a crucial foundational skill that is taught in English classes. It helps students learn by helping them retain information, develop their critical thinking skills, recall prior knowledge, and gain new knowledge from the passages they have read. Reading proficiency varies among students at different grade levels. Students can use reading comprehension tests to gauge their level of reading comprehension (Sahin, 2013). Barret's taxonomy can be used to structure the reading comprehension test. Barret taxonomy includes five categories that can be reflected in teaching through REAP strategy (Zuchdi, 2008: 20).

Mahdavi and Tensfeldt (2013) demonstrated that *literal comprehension* emphasis on understanding the informational pieces presented explicitly in the text to comprehend the concept or information is the goal of this stage to get the main idea from the passage. Whereas,

reorganization means examining, synthesizing, and constructing explicit information from the text to summarize the discourse's points and to identify the reading's theme. Then, *inferential comprehension* refers to meeting an implied requirement through interpretation. The reading requires readers to assess, synthesize, and reorganize information that is implicitly stated by engaging intuition and imagination during the thought process to help the reader develop a feeling of meaning. The last step is evaluation which is related to content assessment through correctness, and quality of ideas in the discourse. The evaluation takes into account the information's consistency, the author's conclusion, and the accuracy of the language utilized.

These elements are typically expressed in the REAP learning strategy. Eanet and Manzo (1976) created REAP to increase the reader's comprehension ability. It refers to using students' own language to convey the text's thoughts. As a result, the material is easily understood by the readers. The REAP strategy's second objective is to help students improve their writing abilities as a tool for further learning and for helping them remember the concepts they learn from reading. Writing exercises are employed in the REAP strategy to help authors express their thoughts in their own words.

2.1.3 Using REAP to Enhance Critical Thinking Disposition

REAP refers to a metacognitive tool that motivates students' critical thinking. For secondary stage students, especially EFL learners, the capacity for efficient reading comprehension and critical thought are key skills. Among other key academic skills, these competencies are essential learning outcomes for assuring success at the teaching and learning process. Students in higher levels especially secondary stage must demonstrate advanced reading comprehension and critical thinking abilities since they must read various texts, the majority of which are written in English. So, it is essential to have an intervention that will help students be guided and develop as critical readers or thinkers (Shihab, 2011).

Also Vered (2016) asserted that using REAP can promote critical thinking through participating in thoughtful activities that require them to think, talk, and discuss. REAP compels the students to think more deeply than they would otherwise. They are required to discuss the meanings with their group in addition to simply listening to the teacher's explanation. Of course, students have to express their thoughts during a discussion. They must use critical thinking because they are exchanging opinions.

Students can apply the R.E.A.P strategy to enhance their reading, writing, and thinking. It is meant to offer students a range of methods to respond to any material as a teaching strategy. The responses offer succinct and interesting methods to comment on or interpret what has been read. There are several types of annotations, ranging from simple summaries to incredibly challenging critical-creative responses (both of which are constructive). The first two types of R.E.A.P annotations need "reconstructive" thinking, comprehension, and awareness of the author's intended meaning. Contrarily, the other ones call for "constructive" thinking, which entails going beyond what the author wants to convey to develop adaptations, and several kinds in the learner's unique schema that permit the transfer of knowledge from one context to another (Ndethiu, 2017& Rezaei, Derakhshan, & Bagherkazemi, 2011).

REAP strategy engages students in activities to identify the writer's primary message and identifying the text's core concepts (Robb, 2003). Previous studies examined various use of REAP strategy in educational settings such as Ya'acob's et al.'s study (2020) examined REAP strategy as an intervention in an English Academic Communication course. Action research was crucial to the researchers. Sixty-four students from four different faculties made up the study's participants, who were divided into 41 first-year, 23 second-year, and one third-year students. Data was gathered by the researchers' using questionnaires, focus groups, and reflective journals. The study's conclusions showed how the REAP technique assisted pupils in developing into active, efficient, and critical readers. Meanwhile, Sholihah (2017) looked at how well the REAP method worked in enhancing pupils' reading abilities. The University of Islam Malang's English education department second-semester students were the subjects of the study. Quasi-experimental research methodology was used. The study's findings demonstrated a substantial difference between pupils who used the REAP in their instruction and those who did not.

Ranette's article (2016) explained how to apply the REAP method for teaching reading. For various reading needs, several reading strategies are required. It is intended to assist readers in achieving their reading goals, whether they are doing it for informational purposes or for enjoyment. REAP strategy used in the hopes that the pupils' reading would increase. Hence, it introduces a best solution that aided in text understanding for kids.

2.2 EFL Reading Comprehension Skills

2.2.1 Nature of Reading Comprehension Skills

The primary goal of reading, known as comprehension, calls for a linguistic system to develop and encode the information from the text. Karen et al (2007) emphasized that the process of generating meaning in reading comprehension involves a number of steps that entail word reading, word, world knowledge, and fluency. It contains the connection between text's visual information and the reader's mind during the reading comprehension process to create the meaning. Hence, comprehension refers to the connection between text's information and reader's information to understand the author's meaning.

In order to understand the words, reading comprehension requires interaction between the reader and the text. As a result, the reader will be able to transmit some information from the book if they are familiar with its primary idea, topic sentence, inference, grammatical aspects, phrases in context, detail meaning, and vocabulary (McNamara, 2006 & Brown, 2004). In the meantime, reading comprehension is based on three variables, according to Tankersley (2000). First speaks of the reader's power over the text's language constructions. Second, readers can exercise metacognitive control over the material they are reading. The third factor is the readers' prior knowledge of the subject matter and terminology.

According to Brown (2004:189), there are four different forms of reading comprehension: perceptive, selective, interactive, and extensive. Students who engage in perceptive reading are exposed to the letters, words, punctuation, and other graphemic symbols that make up discourse. It indicates that students are paying closer attention to the words, sentences, punctuation, and symbols in the text. Selective reading relies on the reader's ability to identify a specific section of the text by recognizing lexical, grammatical, or conversational elements of language within a relatively brief passage of language. While extensive reading entails reading lengthy books and articles that are typically read outside of class time and calls for comprehension of the entire content.

2.2.2 EFL Reading Comprehension Skills Taxonomy

According to, Zuhra, (2015) reading comprehension has five skills to comprehend the text. These skills include identifying the main idea, finding references, drawing inferences, recognizing language, and providing detail information. These skills are seen as challenges that the pupils face when trying to understand the material. A sentence that informs the readers about the topic is the key concept determination. The

first sentence is typically where the major concept appears, but it can also be in the second or third. As a result, it could be harder for the students to identify the essential point. Pronouns are used before references. The sentence that comes before refers to a word or phrase that a pronoun belongs in. Therefore, it is expected that students will read to comprehend the purposes for which pronouns, such as those used to show individuals, places, or situations, are used in sentences (Longan, 2002).

Sharpe (2005) assumed that students will understand the material by using cues from the text and their past knowledge to establish assumptions and draw conclusions. Meanwhile, detail information is also used to test pupils' comprehension. By underlining the main word in the question and scanning the text for synonyms, students can utilize the scanning approach to respond to detail questions. The final form involves learning vocabulary by looking up novel words in dictionaries and inferring their meaning from context based on predictions.

2.2.3 Reading Comprehension Processes of Descriptive Text

There are three processes that should be addressed to achieve completely understanding of reading comprehension interaction. In bottom-up processing, readers attempt to comprehend a variety of linguistic signals, including letters, morphemes, syllables, words, phrases, grammatical cues, and discourse markers, before applying some type of order to these signals using their linguistic data processing mechanism. There is no doubt that the language itself is necessary for these data-driven processes. The reader selects the signals that have some meaning from among all of the comprehended data (Al Hosani, 2005).

On the other hand, Harmer (2010) declared that the readers get a general vision of the reading text in top-down processing, through drawing the overall picture in some way. This is greatly helpful if their schemas enable them to have adequate expectations of what they will come across depending on their intelligence and experience. Ahmedi and Hairul (2012) mentioned that interactive model depends on semantic information, lexical, orthographic, and syntactic schemes. According to Caldwell (2008), descriptive text is one kind of reading that includes descriptions of towns, buildings, animals, and other living and non-living objects to give readers specifics. Understanding the information contained in a descriptive text is another aspect of reading comprehension. By being aware of the requirements for reading comprehension, the reader can obtain detailed information.

2.3 Critical Thinking Disposition

2.3.1 Nature of Critical Thinking Disposition

More emphasis has recently been placed on the significant of critical thinking in all facets of education, particularly in the 21st century. Critical thinking skills become more significant for the success of learners. In light of this, Rezaei et al. (2011) claimed that in the current information era, critical thinking is required for achieving success in the educational environments. According to Paul and Elder (2001), it is a way of thinking about any topic, piece of information, or issue. It includes the skills of analyzing arguments, drawing conclusions through inductive or deductive reasoning, judging or evaluating, and coming to decisions or resolving issues (Lai, 2011:2).

Meanwhile, Saleh (2019) defined critical thinking as deeply immersion of students to construct information from totally thinking and reflection. Dewey as cited in Facione (2006) declared the dispositional aspects of thinking as “personal attributes”. When the term "disposition" is used in social psychology, it often refers to an attitude or attitudinal inclination to describe the defining characteristics of people. As a result, a person constantly feels compelled to act or react to other people or circumstances, or circumstances in accustomed through theoretically adjustable ways known as their disposition. A critical disposition is characterized by a critical attitude that is committed to seeking and weighing arguments and incorporates objectivity, fairness to the evidence, impartiality, and intellectual honesty (Bagheri, 2018).

Moore (2009) stated that to improve critical thinking, students must have and apply a specific disposition. Therefore, in order to form and make conclusions, one must rely on seven dispositions: truth-seeking, open-mindedness, analyticity, systematicity, faith in one's own critical thinking, inquisitiveness, and cognitive maturity. Thinking critically requires the ability to analyze evidence, generate and organise concepts, defend viewpoints, compare, infer, and solve problems (Fahim, Miri, & Najafi in 2014). In order to better understand and make sense of the world around us, Facione (2006) defined critical thinking as deliberate, purposeful, and systematic attempts to analyze our own and other people's thinking. Moreover, it involves the following components: self-regulation, interpretation, analysis, and evaluation.

2.3.2 Characteristics of Critical Thinking Disposition

Critical thinking has two components. The attitude component comes first, followed by the knowledge and skill component. It refers to attitude component. Critical thinking abilities refers to knowledge and skills. The disposition for critical thinking is the soul or critical spirit that

motivates someone to apply thinking abilities. (Ojowole & Thompson, 2014).

According to some experts, the traits of critical thinking disposition include: (a) asking questions that are reasonable and clear, (b) trying to understand others' ideas, (c) using trustworthy sources, (d) considering the situation as a whole, (e) trying to stay relevant to the underlying problem, (f) continuing to refer to the original problem, (g) searching for alternatives, (h) being open, (i) taking a position, (j) acting quickly, believing that something is a component of a complicated whole, taking advantage of others' critical thinking, and being considerate of others' feelings are all examples of behaviour (Redhana, Karyasa & Atrisa, 2017).

Meanwhile, Boonsathirakul and Kerdsomboon, C. (2021) stated that a person with critical thinking disposition is more likely to: (a) convince themselves that their ideas and actions are right; (b) understand and respect others in an open and honest way; and (c) show concern for others. As a result, it may be claimed that students' critical thinking dispositions are very significant. Also, it's crucial to understand how students rate their capacity for critical thought. Hence, a tool is required to gauge pupils' critical thinking abilities based on their disposition score. Many measures to gauge the disposition of critical thinking have been developed by experts.

2.3.4 Elements and Standards of a Critical Thinker

According to Bassham et al. (2011), the following are the eight characteristics that a critical thinker should have: *Clarity* refers to understanding what is truly being said, such as how having clear goals, an accurate assessment of one's abilities, and an understanding of oneself can all help one achieve in life. *Precision* means that critical thinkers recognize the weight that should be given to precise and accurate thinking to cut through the complexities and uncertainties that surround many everyday issues. Critical thinkers attempt to identify the precise problem, alternatives, and pros and cons of each alternative. Because they fight to make judgements that are as informed as possible, customers, residents, workers, and parents are among those who have a love for accurate, timely information. *Relevance* is the pertinence of conversations when talking about or dealing with a subject.

The two types of *inconsistency* are "logical inconsistency," which involves expressing or thinking contradicting things about a certain issue, and "practical inconsistency," which contrasts what is said with what is done. Being able to derive conclusions from beliefs is the foundation of logical correctness. One trait of deep thinking that makes it superior to shallow and superficial thinking is *completeness*. As a last requirement of

fairness, our thinking must be impartial, open-minded, and devoid of preconceived notions and biases (Fahim, Miri, & Najafi, 2014).

Whereas, Carroll (2004) confirmed that a critical thinker will make better decisions and be better at solving problems because thinking critically requires applying knowledge and intelligence to get the most logical and convincing conclusion. Although it is considered that they are involved in worthwhile activities and have active lives, many people credit their originality and cleverness to their life from various parts. Critical thinking is not a fixed occurrence, they are continually challenging the veracity and validity of assumptions (Birjandi & Bagherkazemi, 2010).

According to Fahim and Ahmadian (2012:795) critical thinker refers to the person who has an awareness of and the capacity to generate, examine, and assess the inquiry at hand; the intended outcome of thinking; the perspective to be considered and the delusions made. In addition, generating main thoughts, rules and principles. Providing data documentation and deduction. Having decision making ability, stretches the created concepts and the repercussions of the decisions which follow.

2.3.5 Techniques of Critical Thinking Disposition and It's Influence on Reading Comprehension

Rezaei, Derakhshan, and Bagherkazemi (2011: 775) outlined the following techniques to adopt for developing critical thinking disposition: *Discussion/Debate* refers to piquing students' interest in critically analyzing problems from multiple perspectives. *Media analysis* was used to draw students' attention to issues including equality, prejudice, bias, censorship, and discrimination. It refers to the geopolitical and cultural components of the critical thinking disposition. Student participation in *problem-solving* tasks and activities is encouraged to participate in group discussions. Students working in groups must first identify the topic of the conversation, personalize the issue, talk about it and potential solutions and then evaluate the entire process. *Self-evaluation and peer evaluation Assignments* is based on giving students activities that involve properly supervised self- and peer assessment to analyze not only their critical thinking disposition but also the others.

Whereas, Buskist and Irons (2008:56) suggested some techniques to teach critical thinking disposition through providing learners with problems to evaluate or solve. Enhancing learners' critical thinking abilities by providing them with printed or computerized documents to support their thinking critically to solve problems and come to wise judgements. Next, use these strategies to your subject area to provide a positive example for innovative thinking for your learners. Besides,

increasing learners' ample opportunities to think critically through tests and formative assessment. Several academics have studied and expanded on the idea of disposition and its vital role in the capacity for comprehension. Richard Paul (2004), for example, highlighted the correlation between critical thinking disposition and reading comprehension. Thus, he asserted: "By reflecting on it, the reflective mind develops its thinking. Similarly, it enhances its reading by reflecting on how it is reading "

Comprehension can be categorized into several levels. According to Dorn and Soffos (2005: 14), teaching for achieving deep comprehension can be achieved through two levels of thinking: Surface level refers to students' capacity to recall precise details from the text to illustrate their comprehension of this issue. Since this level depends on short-term memory through the recent degree of, understanding the text. Deep level knowledge, on the other hand, depends on incorporates the author's thoughts with the reader's perspective. As a result, earlier research has addressed the connection between reading comprehension and critical thinking, such as Awan et al.'s study (2021), which looked at students' reading comprehension and critical and creative thinking. Participants were (60) from the KMC, University of Peshawar. This study included questionnaires, tests, and collaborative instructions to help consolidate the results of critical thinking. The study's findings demonstrated that the experimental group produces highly significant results.

Uslu (2020) investigated how prospective social studies teachers handled their critical thinking. Participants were 250 teacher candidates voluntarily from the school of education in a state university. The descriptive design was used. The researchers used "Personal Information Form" to collect data and CCTDI. At the end of the study, it was found that while there were significant variations found in the subscale dimensions, the critical thinking disposition did not differ based on gender or class characteristics in general. In their study, Kamgar and Jadidi (2016) examined the relationship between Iranian EFL students' capacity to read comprehension at several levels of competence and their critical thinking and self-regulation. The sample consisted of seventy learners. A reading placement exam, a questionnaire on self-control, and a questionnaire on critical thinking tendencies were used as instruments. The results declared the effective relation between comprehension and thinking.

Whereas, Khatib, Marefat, and Ahmadi (2012) did additional research to determine the impact of audiotaped and written discussion on

the development of thinking. Thirty-three (33) were the participants, who were split into two groups. A pre-posttest and the Watson-Glaser critical thinking assessment were the tools used. A considerable difference between the two groups was revealed by the data. Fahim and Sa'eepour (2011) looked into the effects of teaching critical thinking skills on students' reading comprehension skills and the effects of using debate. Sixty participants were split into two groups. Pre-posttests were the instruments. The findings suggested that teaching critical thinking abilities within an EFL framework can further enhance language learning.

Based on previous explanations, the researcher came to the conclusion that REAP is a strategy that help students to improve their comprehension in reading skills in general and specifically critical thinking disposition through the annotate and ponder activity, which they can finish by reflecting on, conversing with, and debating the newly composed, brief text by the other group members. The students' capacity for group work can then be encouraged.

3. Methodology

3.1 Design

This study's methodology was quantitative, using a quasi-experimental design with an experimental and control group to get the necessary data. The researcher depended on cluster random sampling method which appointed two classes of first year secondary school students. The first class contains 33 students used as experimental group and the second class was the control group involved 30 students. Both the experimental group and the control group were given the pre-test by the researcher to determine proficiency of the students in reading comprehension and a scale to measure students' critical thinking skills before introducing the treatment. After that, the experimental group received treatment utilizing the REAP strategy, while the control group depended on the conventional method. The posttest and the critical thinking skills scale applied after the treatment to identify the effect of the proposed strategy.

3.2 Participants

Participants of the research were sixty-three (63) male and female students of first year secondary school students. They have been selected from Abu Bakr Al Siddiq Secondary Common School, New Damietta, Egypt. In order to collect data, all participants were contacted. Participants were split into two groups, experimental and control. They were asked to answer pre-post RCST and pre-post critical thinking disposition skills scale.

3.3 Session and Place

This research was held on second semester of 2022/2023 school year, at Feb 12-28, 2023 on secondary school of first grade. The experimental group had six sessions with one session for pretest and pre scale, four sessions for applying REAP strategy, and one session for posttest and post scale. Meanwhile, the control group taught through using the regular method and had two sessions for pre-posttest and pre-post scale.

3.4 Instruments

In this research, the researcher employed three tools to gather data. The researcher conducted an EFL RCS questionnaire to determine the RCS needed for first year secondary school students and an EFL reading comprehension pre-posttest test to determine the level of the participants before applying the proposed strategy and after using REAP strategy to identify its effect on the students' performance. In addition, pre-posttest critical thinking disposition skills scale was also used to get the required data about the effectiveness of using REAP strategy on the performance of the students.

1. An RCS questionnaire.
2. An RCS Test

The RCST was administered as a pre-posttest. The test involved 3 texts, followed by 15 items. Therefore, the scoring was calculated out of 15. The RCST test was administered to both experimental and control group. The reliability, validity, item facility, and item discrimination of this test was determined in the piloting phase of the research. The reliability of the test scores was estimated as ($r = 0.742$).

Table 4: Specifications of Test Items in Light of the Reading Comprehension Skills

Skill	Item (questions)	Mark	Time
1. Determine the main idea of the text.	2-11	2	5 minutes
2. Locate reference (pronouns) from the text.	9-14	2	5 minutes
3. Guess the meaning of new words from the context.	6-10-13	3	10 minutes
4. Make inference through combining text clues with students' background knowledge.	3-4-12-15	4	10 minutes
5. Identify detail information that is directly stated in the text.	1-5-7-8	4	10 minutes

Piloting the RCST and Critical Thinking Disposition Scale

The researcher conducted a pilot study to recognize the validity, reliability and correlation of the test and the scale. In addition, it helps the researcher to estimate time allocated for finishing the test and the scale. It was administered to a randomly selected group of first grade secondary school students (N=30).

- **Construct Internal Validity of the Test**

To calculate the construct validity of the EFL reading comprehension skills test, the researcher used Pearson Statistical Formula as follows:

1. Using Pearson Formula: the researcher estimated the correlation between the marks of each question of the test with the total mark of the skill that the question belongs to it. The results are as shown in table (5):

Table5: Establishing Construct Validity for the EFL Reading Comprehension Pre-post Test

Skills	Number of Item	Pearson Correlation	Sig	Skills	Number of Item	Pearson Correlation	Sig
Determine the main idea of the text.	2	0.764	0.01	Make inference through combining text clues with students' background knowledge.	3	0.577	0.01
Locate reference (pronouns) from the text.	11	0.673	0.01	Identify detail information that is directly stated in the text.	4	0.92	0.01
Locate reference (pronouns) from the text.	9	0.795	0.01		12	0.85	0.01
Guess the meaning of new words from the context.	14	0.762	0.01		15	0.699	0.01
	6	0.899	0.01		1	0.661	0.01
	10	0.491	0.01		5	0.778	0.01
	13	0.88	0.01		7	0.492	0.01
					8	0.56	0.01

Table (5) demonstrates that all correlation coefficients were favorable. and significant at (0.01) levels. This referred to as good, strong and important relationship between the mark of each question and the total mark of the main skill of the reading comprehension test.

2. Calculating the correlation coefficient between the total marks of each skill of the test with the total mark of the test, the results are as shown in table (6):

Table 6: The Correlation between the Total Marks of Each Skill of the Test with the Total Mark of the Test

Skills	Pearson Correlation	Sig
Determine the main idea of the text.	0.728	0.01
Locate reference (pronouns) from the text.	0.708	0.01
Guess the meaning of new words from the context.	0.74	0.01
Make inference through combining text clues with students' background knowledge.	0.661	0.01
Identify detail information that is directly stated in the text.	0.39	0.05

Table (6) reveals that all correlation coefficients were positive and significant at (0.05) levels. The results were statistically significant. Hence, this points to the validity and homogeneity of the skills.

- **Reliability**

The researcher employed Cronbach's Alpha Coefficient to gauge the reliability of the EFL reading comprehension test. It was found that the reliability of the reading comprehension test was (0.742). This means that the test was reliable. Hence, the researcher formulated the test in its final version.

Time Allocation

To determine how long it will take to complete the test, the researcher calculated the time allocation by dividing the sum of each student's time by students' number. Hence, the test time was 40 minutes.

3. Critical Thinking Disposition Scale

Based on Facione's (1992) scale for assessing critical thinking disposition, the Critical Thinking Dispositions Scale was developed. This scale has 24 statements on it, each with a Likert-style 5-point rating from "Strongly Disagree" to "Strongly Agree." The scores that could be gained in the minimal, median, and maximum ranges were 0.483 and 0.896, respectively.

- **Construct Internal Validity of the Scale**

To determine the critical thinking disposition scale's construct validity, the researcher used Pearson Statistical Formula as follows:

1. Using Pearson Formula: the researcher estimated the correlation between the marks of each statement of the scale with the total

mark of the dimension to which it belongs. The results are as shown in table (7):

Table 7: Establishing Construct Validity for the Critical Thinking Disposition Pre-post Scale

Skills	Number of Item	Pearson Correlation	Sig	Skills	Number of Item	Pearson Correlation	Sig
Truth-seeking	1	0.872	0.01	Systematicity	13	0.748	0.01
	2	0.833	0.01		14	0.842	0.01
	3	0.583	0.01		15	0.886	0.01
Open-mindedness	4	0.809	0.01	Critical thinking Self-confidence	16	0.896	0.01
	5	0.579	0.01		17	0.698	0.01
	6	0.483	0.01		18	0.638	0.01
	7	0.619	0.01		19	0.715	0.01
Analyticity	8	0.789	0.01	Inquisitiveness	20	0.574	0.01
	9	0.879	0.01		21	0.658	0.01
	10	0.845	0.01		22	0.657	0.01
Systematicity	11	0.657	0.01	Cognitive maturity	23	0.624	0.01
	12	0.533	0.01		24	0.684	0.01

Table (7) shows that all correlation coefficients were positive and significant at (0.01) levels. This referred to as good, strong and important relationship between the mark of each statement and the total mark of the of the dimension to which it belongs.

- Calculating the correlation coefficient between the total mark of each dimension of the scale with the total mark of the scale, the results are as shown in table (8):

Table 8: The Correlation between the Total Marks of Each Dimension of the Scale with the Total Mark of the Scale

Skills	Pearson Correlation	Sig
Truth-seeking	0.67	0.01
Open-mindedness	0.573	0.01
Analyticity	0.868	0.01
Systematicity	0.937	0.01
Critical thinking Self-confidence	0.893	0.01
Inquisitiveness	0.836	0.01
Cognitive maturity	0.808	0.01

Table (8) reveals that all correlation coefficients were positive and significant at (0.05) levels. The results were statistically significant. Hence, this points to the internal validity and homogeneity of the scale.

- Reliability**

To estimate the reliability of the critical thinking disposition scale, the researcher used Cronbach's Alpha Coefficient because this method is based on calculating the variance of the scale's items. It was found that

the reliability of the scale was (0.866). This means that the scale was reliable. Hence, the researcher formulated the scale in its final version.

Time Allocation

To calculate the time requested for answering the scale, the researcher calculated the time allocation by dividing the sum of each student's time by students' number. Hence, the test time was 60 minutes.

4. Results of the Research

Descriptive Statistics; Mann-Whitney Test and Eta-square were used for the verification of the research hypotheses. Results of the research are presented in terms of the study hypotheses.

- 1) The researcher used independent samples t-test to verify the first hypothesis. The results are shown in table (9):

Table 9: Establishing Groups Homogeneity in each Skill of the EFL Reading Comprehension Pre-Test

Skills	Groups	N	Mean	Std. Deviation	t Value	df	Sig																																																								
Determine the main idea of the text	Experimental	33	0.67	0.54	0.241	61	Not Sig																																																								
	Control	30	0.63	0.556				Locate reference (pronouns) from the text.	Experimental	33	0.76	0.561	1.569	61	Not Sig	Control	30	0.97	0.490	Guess the meaning of new words from the context.	Experimental	33	0.52	0.667	1.762	61	Not Sig	Control	30	0.80	0.610	Make inference through combining text clues with students' background knowledge.	Experimental	33	0.24	0.435	1.34	61	Not Sig	Control	30	0.4	0.498	Identify detail information that is directly stated in the text.	Experimental	33	1.55	0.833	1.761	61	Not Sig	Control	30	1.17	.874	Total	Experimental	33	3.73	1.567	0.602	61	Not Sig
Locate reference (pronouns) from the text.	Experimental	33	0.76	0.561	1.569	61	Not Sig																																																								
	Control	30	0.97	0.490				Guess the meaning of new words from the context.	Experimental	33	0.52	0.667	1.762	61	Not Sig	Control	30	0.80	0.610	Make inference through combining text clues with students' background knowledge.	Experimental	33	0.24	0.435	1.34	61	Not Sig	Control	30	0.4	0.498	Identify detail information that is directly stated in the text.	Experimental	33	1.55	0.833	1.761	61	Not Sig	Control	30	1.17	.874	Total	Experimental	33	3.73	1.567	0.602	61	Not Sig	Control	30	3.97	1.586								
Guess the meaning of new words from the context.	Experimental	33	0.52	0.667	1.762	61	Not Sig																																																								
	Control	30	0.80	0.610				Make inference through combining text clues with students' background knowledge.	Experimental	33	0.24	0.435	1.34	61	Not Sig	Control	30	0.4	0.498	Identify detail information that is directly stated in the text.	Experimental	33	1.55	0.833	1.761	61	Not Sig	Control	30	1.17	.874	Total	Experimental	33	3.73	1.567	0.602	61	Not Sig	Control	30	3.97	1.586																				
Make inference through combining text clues with students' background knowledge.	Experimental	33	0.24	0.435	1.34	61	Not Sig																																																								
	Control	30	0.4	0.498				Identify detail information that is directly stated in the text.	Experimental	33	1.55	0.833	1.761	61	Not Sig	Control	30	1.17	.874	Total	Experimental	33	3.73	1.567	0.602	61	Not Sig	Control	30	3.97	1.586																																
Identify detail information that is directly stated in the text.	Experimental	33	1.55	0.833	1.761	61	Not Sig																																																								
	Control	30	1.17	.874				Total	Experimental	33	3.73	1.567	0.602	61	Not Sig	Control	30	3.97	1.586																																												
Total	Experimental	33	3.73	1.567	0.602	61	Not Sig																																																								
	Control	30	3.97	1.586																																																											

Previous table indicates that the "T" values were not statistically significant at the level of significance of 0.05, which illustrates that there is no difference between the mean scores of the experimental and control groups in the pre-test of RCST, which indicates the equivalence of the experimental and control groups in RCST.

- 2) The researcher used independent samples t-test to verify the second hypothesis. The results are shown in table (10):

Table 10: Comparing the Performance of the Experimental and the Control Group on the Post Administration of the EFL Reading Comprehension Skills Test

Skills	Groups	N	Mean	Std. Deviation	T Value	df	Sig																																																								
Determine the main idea of the text	Experimental	33	1.91	0.292	10.16	61	0.01																																																								
	Control	30	0.9	0.481				Locate reference (pronouns) from the text.	Experimental	33	1.94	0.242	6.3	61	0.01	Control	30	0.97	0.85	Guess the meaning of new words from the context.	Experimental	33	2.82	0.392	12.97	61	0.01	Control	30	0.73	0.828	Make inference through combining text clues with students' background knowledge.	Experimental	33	3.48	0.508	20.26	61	0.01	Control	30	0.6	0.621	Identify detail information that is directly stated in the text.	Experimental	33	3.76	0.435	10.72	61	0.01	Control	30	1.9	0.885	Total	Experimental	33	13.91	0.98	22.16	61	0.01
Locate reference (pronouns) from the text.	Experimental	33	1.94	0.242	6.3	61	0.01																																																								
	Control	30	0.97	0.85				Guess the meaning of new words from the context.	Experimental	33	2.82	0.392	12.97	61	0.01	Control	30	0.73	0.828	Make inference through combining text clues with students' background knowledge.	Experimental	33	3.48	0.508	20.26	61	0.01	Control	30	0.6	0.621	Identify detail information that is directly stated in the text.	Experimental	33	3.76	0.435	10.72	61	0.01	Control	30	1.9	0.885	Total	Experimental	33	13.91	0.98	22.16	61	0.01	Control	30	5.1	2.04								
Guess the meaning of new words from the context.	Experimental	33	2.82	0.392	12.97	61	0.01																																																								
	Control	30	0.73	0.828				Make inference through combining text clues with students' background knowledge.	Experimental	33	3.48	0.508	20.26	61	0.01	Control	30	0.6	0.621	Identify detail information that is directly stated in the text.	Experimental	33	3.76	0.435	10.72	61	0.01	Control	30	1.9	0.885	Total	Experimental	33	13.91	0.98	22.16	61	0.01	Control	30	5.1	2.04																				
Make inference through combining text clues with students' background knowledge.	Experimental	33	3.48	0.508	20.26	61	0.01																																																								
	Control	30	0.6	0.621				Identify detail information that is directly stated in the text.	Experimental	33	3.76	0.435	10.72	61	0.01	Control	30	1.9	0.885	Total	Experimental	33	13.91	0.98	22.16	61	0.01	Control	30	5.1	2.04																																
Identify detail information that is directly stated in the text.	Experimental	33	3.76	0.435	10.72	61	0.01																																																								
	Control	30	1.9	0.885				Total	Experimental	33	13.91	0.98	22.16	61	0.01	Control	30	5.1	2.04																																												
Total	Experimental	33	13.91	0.98	22.16	61	0.01																																																								
	Control	30	5.1	2.04																																																											

Table (10) reveals that the results indicates that the mean score of the different reading comprehension have been enhanced. The "t" value of the skills was (10.16, 6.3, 12.97, 20.26 and 10.72) respectively, all of which are statistically significant at (0.001). Whereas, the mean score of the experimental group students in the post administration of the whole test were (13.91) and the control group were (5.1).

3) The researcher used independent samples t-test to verify the third hypothesis. The results are shown in table (11):

Table 11: Comparing the Experimental Group Performance on the Pre and Post Administration of the EFL Reading Comprehension Skills Test

Skills	Measurement	N	Mean	Std. Deviation	T Value	df	Sig	η ² (
Determine the main idea of the text	Pre	33	0.67	0.54	11.63	32	0.01	0.81																																																						
	Post		1.91	0.292					Locate reference (pronouns) from the text.	Pre	33	0.76	0.561	11.63	32	0.01	0.81	Post	1.94	0.242	Guess the meaning of new words from the context.	Pre	33	0.52	0.667	16.34	32	0.01	0.893	Post	2.82	0.392	Make inference through combining text clues with students' background knowledge.	Pre	33	0.24	0.435	23.53	32	0.01	0.945	Post	3.48	0.508	Identify detail information that is directly stated in the text.	Pre	33	1.55	0.833	13.23	32	0.01	0.845	Post	3.76	0.435	Total	Pre	33	3.73	1.567	28.92
Locate reference (pronouns) from the text.	Pre	33	0.76	0.561	11.63	32	0.01	0.81																																																						
	Post		1.94	0.242					Guess the meaning of new words from the context.	Pre	33	0.52	0.667	16.34	32	0.01	0.893	Post	2.82	0.392	Make inference through combining text clues with students' background knowledge.	Pre	33	0.24	0.435	23.53	32	0.01	0.945	Post	3.48	0.508	Identify detail information that is directly stated in the text.	Pre	33	1.55	0.833	13.23	32	0.01	0.845	Post	3.76	0.435	Total	Pre	33	3.73	1.567	28.92	32	0.01	0.963	Post	13.91	0.98						
Guess the meaning of new words from the context.	Pre	33	0.52	0.667	16.34	32	0.01	0.893																																																						
	Post		2.82	0.392					Make inference through combining text clues with students' background knowledge.	Pre	33	0.24	0.435	23.53	32	0.01	0.945	Post	3.48	0.508	Identify detail information that is directly stated in the text.	Pre	33	1.55	0.833	13.23	32	0.01	0.845	Post	3.76	0.435	Total	Pre	33	3.73	1.567	28.92	32	0.01	0.963	Post	13.91	0.98																		
Make inference through combining text clues with students' background knowledge.	Pre	33	0.24	0.435	23.53	32	0.01	0.945																																																						
	Post		3.48	0.508					Identify detail information that is directly stated in the text.	Pre	33	1.55	0.833	13.23	32	0.01	0.845	Post	3.76	0.435	Total	Pre	33	3.73	1.567	28.92	32	0.01	0.963	Post	13.91	0.98																														
Identify detail information that is directly stated in the text.	Pre	33	1.55	0.833	13.23	32	0.01	0.845																																																						
	Post		3.76	0.435					Total	Pre	33	3.73	1.567	28.92	32	0.01	0.963	Post	13.91	0.98																																										
Total	Pre	33	3.73	1.567	28.92	32	0.01	0.963																																																						
	Post		13.91	0.98																																																										

Table (11) reports that the mean score of the experimental group was higher on the post administration of the RCST than that of the control

group on the post administration of the test in all skills and in the total score of the test. The results also indicate that the mean score of the different EFL RCS have been enhanced. The "t" value of the skills ranged between (11.63- 23.53), all of which are statistically significant at (0.001). The value of "t" of the whole test was (28.92). Hence, the effect size value of using REAP strategy to enhance EFL RCS were greater than (0.14) which indicates that the effect size is significant in developing reading comprehension skills and critical thinking disposition among first year secondary school students.

4) The researcher used independent samples t-test to verify this hypothesis. The results are shown in table (12):

Table 12: Establishing Groups Homogeneity in each Dimension of the critical Thinking Disposition Pre-Scale

Skills	Groups	N	Mean	Std. Deviation	T Value	df	Sig
Truth-seeking	Experimental	33	7.15	0.972	1.024	61	Not Sig
	Control	30	6.97	0.183			
Open-mindedness	Experimental	33	17.73	1.485	0.81	61	Not Sig
	Control	30	18.07	1.837			
Analyticity	Experimental	33	3.06	0.242	0.501	61	Not Sig
	Control	30	3.03	0.183			
Systematicity	Experimental	33	4.18	0.392	1.203	61	Not Sig
	Control	30	4.07	0.365			
Critical thinking	Experimental	33	4.03	0.174	0.993	61	Not Sig
	Control	30	3.97	0.320			
Self-confidence	Experimental	33	3.12	0.415	0.133	61	Not Sig
	Control	30	3.13	0.434			
Inquisitiveness	Experimental	33	3.12	0.415	0.133	61	Not Sig
	Control	30	3.13	0.434			
Cognitive maturity	Experimental	33	14.3	0.951	0.121	61	Not Sig
	Control	30	14.33	1.028			
Total	Experimental	33	53.58	2.646	0.014	61	Not Sig
	Control	30	53.57	2.555			

Previous table indicates that the "T" values were not statistically significant at the level of significance of 0.05, which illustrates that there is no difference between the mean scores of the experimental and control groups in the pre-scale of critical thinking disposition, which indicates the equivalence of the experimental and control groups in critical thinking disposition scale.

5) The researcher used independent samples t-test to verify the third hypothesis. The results are shown in table (13):

Table 13: Comparing the Performance of the Experimental and the Control Group on the Post Administration of the Critical Thinking Disposition Scale

Skills	Groups	N	Mean	Std. Deviation	T Value	df	Sig
Truth-seeking	Experimental	33	10.97	0.174	8.294	61	0.01
	Control	30	7.03	2.723			
Open-mindedness	Experimental	33	4.03	0.174	-45.84	61	0.01
	Control	30	18.87	1.852			

Using Read, Encode, Annotate and Ponder (REAP) Strategy to Enhance EFL Reading Comprehension Skills and Critical Thinking Disposition of First Grade Secondary School Students

Analyticity	Experimental	33	14.91	0.292	24.96	61	0.01
	Control	30	5.23	2.208			
Systematicity	Experimental	33	19.85	0.442	46.55	61	0.01
	Control	30	5.27	1.741			
Critical thinking	Experimental	33	19.73	0.574	41.32	61	0.01
	Control	30	5.63	1.866			
Self-confidence	Experimental	33	14.91	0.384	47.71	61	0.01
	Control	30	3.73	1.285			
Inquisitiveness	Experimental	33	3.06	0.242	-	61	0.01
	Control	30	14.80	0.484	123.38		
Cognitive maturity	Experimental	33	87.45	1.034	41.86	61	0.01
	Control	30	60.57	3.53			
Total	Experimental	33	87.45	1.034	41.86	61	0.01
	Control	30	60.57	3.53			

Table (13) illustrates that the results indicates that the mean score of the scale dimensions have been enhanced. The "t" value of the dimensions was (8.294, -45.84, 24.96, 46.55, 41.32, 47.71 and -123.38) respectively, all of which are statistically significant at (0.001). Whereas, the mean score of the experimental group students in the post administration of the whole test were (**87.45**) and the control group were (60.57).

6) The researcher used independent samples t-test to verify the fourth hypothesis. The results are shown in table (14):

Table 14: Comparing the Experimental Group Performance on the Pre and Post Administration of the Critical Thinking Disposition Scale

Skills	Measurement	N	Mean	Std. Deviation	T Value	df	Sig	η ² (
Truth-seeking	Pre	33	7.15	0.972	23.08	32	0.01	0.943
	Post		10.97	0.174				
Open-mindedness	Pre	33	17.73	1.485	53.6	32	0.01	0.99
	Post		4.03	0.174				
Analyticity	Pre	33	3.06	0.242	186.9	32	0.01	0.999
	Post		14.91	0.292				
Systematicity	Pre	33	4.18	0.392	151.23	32	0.01	0.998
	Post		19.85	0.442				
Critical thinking	Pre	33	4.03	0.174	154	32	0.01	0.998
	Post		19.73	0.574				
Self-confidence	Pre	33	3.12	0.415	124.2	32	0.01	0.997
	Post		14.91	0.384				
Inquisitiveness	Pre	33	14.3	0.951	68.97	32	0.01	0.993
	Post		3.06	0.242				
Cognitive maturity	Pre	33	53.58	2.646	74.31	32	0.01	0.994
	Post		87.45	1.034				

Table (14) declares that the results indicate that the mean score of the different dimensions have been enhanced. The "t" value of the scale was (151.23, 154, 124.2 and 68.97) respectively, all of which are statistically significant at (0.001). The value of "t" of the whole scale was (74.31). Hence, the effect size value of using REAP strategy to enhance critical thinking disposition were greater than (0,14) which indicates that the effect size is significant in the development of critical thinking disposition of first grade secondary school students.

- 7) To test the validity of the fifth hypothesis, the researcher used Pearson's simple correlation coefficient, in order to calculate the correlation coefficient between the scores of the experimental group in the reading skills test and the critical thinking scale. The following table shows the value of the correlation coefficient and its level of significance.

Table 15: Correlation Coefficient of Students' Scores in the EFL Reading Comprehension Skills Test and Critical Thinking Disposition Scale

Correlation Coefficient	EFL Reading Comprehension Skills Test	Sig
Critical Thinking Disposition Scale	0.921	0.01

From the previous table, it is obvious that there is a correlation between the scores of the experimental group in the EFL reading comprehension skills test and the critical thinking disposition scale, where the value of "R" was statistically significant at the significance level of 0.01.

5. Discussion

Data analysis demonstrated that the REAP strategy as a treatment in this research had a beneficial impact on students' reading comprehension and critical thinking disposition. According to the results of the pre-test and pre-scale, both the experimental class and the control class performed similarly. Hence, the researcher first explained the strategy to the experimental group to be able to use it correctly.

Using REAP enthusiastic students in discussion with their colleagues to comprehend the text and think critically. Hence, it contributes in helping shy and passive students to participate and to express their ideas related to the meaning, synonyms, antonyms and the text structure. According to the research, the aim of REAP is to help students summarize the author's ideas in their own words, so enhancing their reading comprehension, critical thinking disposition, writing abilities and facilitating learning and memory. In addition, the results declared that REAP deepens students' comprehension through challenging them to analyze the material at higher levels of critical thinking disposition at each stage.

In addition, it encourages students to generate and organize their ideas better to feel more self-confidence with their peers. It's interesting to note that the REAP strategy makes students critical readers because they are now more aware, critical, and argumentative of the material they are reading. They may now accept and concur with the author's viewpoints as expressed in written texts with greater proficiency and

critical thinking. Additionally, by routinely challenging and analyzing the viewpoints and ideas presented by the writers in their written works, students often acquire the habit of reading critically and objectively.

REAP strategy enjoyed the experimental class to be more engaged tell achieving enthusiasm and curiosity through reading comprehension. As a consequence of the results discussed above, it was determined that the researcher conducted the quasi-experimental research to know whether REAP strategy can improve students reading comprehension and critical thinking disposition or not. And the results showed that there is a significant difference between the students who are taught by using REAP strategy and the students who are not taught by using REAP.

6. Conclusions

Following are a few inferences that can be drawn as conclusions from the research's results:

The research's results demonstrated that the four-step strategy had a positive impact on students' ability to read critically and effectively. This research highlights how crucial it is to teach and provide pupils with the fundamental reading abilities to inspire them to become critical readers. Reading, encoding, annotating, and reflecting are the primary phases of the REAP reading method. Exposing students to these activities and giving them the opportunity to practice them will help them to be critical readers. The four reading phases of the REAP provide learners with a useful and meaningful opportunity to interact with and make connections of written texts.

This research reveals the necessity of training and equipping students with the essential EFL reading comprehension skills in stimulating students as critical readers and thinkers because enhancing students' critical thinking disposition will raise their level. The findings also demonstrates that educators need to find or develop resources that help students interpret text meaning and move from reading to critical thinking through using REAP strategy. Additionally, Bagheri & Nowrozi (2015) support the idea that educators should help students develop their critical thinking abilities so they can make decisions based on thoughtful assessments.

The current research's results support earlier studies that claimed that students with a lower tendency towards critical thought have inferior comprehension skills. because critical thinking and reading comprehension ability have reciprocal traits. In addition, the results displayed that there is a link between using REAP strategy in enhancing critical thinking disposition and EFL reading comprehension like ([Ya'acob et al, 2020](#); [Uslu, 2020](#); [Awan, 2021](#) & [Ndethiu, 2017](#)) studies.

Thus, Marashi and Noochiwani, 2011 asserted that enhancing students' critical thinking disposition arouses the learners' prior knowledge through using REAP strategy to facilitate reading comprehension.

Additionally, the dynamic and adaptable teaching and learning environment provided by the REAP allows students to develop comprehension skills. Even though the REAP was implemented in a regular classroom setting, this does not limit its potential to generate the opportunities and meaningful engagement required to improve students' educational experiences as critical readers. These essential RCS can be introduced into the classroom using the REAP strategy because it scaffolds and engages students with both the fundamental and advanced learning to reach the desired reading competency, making it an excellent learning platform for children to build their critical reading skills.

Generally, it is apparent from what was explained that the results of this research asserted the correlation between REAP strategy, EFL reading comprehension and critical thinking disposition.

7. Recommendations

The researcher makes the following suggestions in light of the results covered above:

1. Teachers should apply REAP strategy to teach EFL reading comprehension to help the learners comprehend the text and think critically.
2. Teachers should use group work through REAP strategy to encourage students to express their ideas in an effective and dynamic educational environment.
3. Ministry of Education should conduct a training program for in-service teachers including using new strategies and methods in teaching EFL reading comprehension skills to improve English teachers' performance in teaching RCS.
4. Curriculum designers should focus on enhancing students' critical thinking disposition.
5. Future research must examine the relationship between the REAP strategy and secondary students' critical thinking abilities from a variety of angles (academic performance, department, public society and culture, economics, etc.).
6. It will be beneficial for researchers to investigate how the REAP strategy affects students' EFL writing performance.
7. Researchers should investigate the effect of using REAP strategy on RCS and critical thinking disposition of primary and preparatory stage students.

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