Deanship of Scientific Research

The Effectiveness of the Directed Reading Thinking Activity (DRTA) Strategy in Jordanian EFL Tenth-Grade Students' Reading Comprehension

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Abstract

Objectives: This study aimed to investigate to what extent the Directed Reading Thinking Activity (DRTA) strategy affects Jordanian EFL tenth grade students' reading comprehension.

Methods: The study followed the quasi-experimental design, which is based on a one-group pre- and post-test design (repeated measures) to measure the dependent variable before the treatment was implemented and once it was implemented. The treatment lasted for eight weeks during the first semester of the academic year 2021–2022. The sample of the study consisted of 30 male students in the tenth grade who were purposefully selected from Turra Secondary School in Al-Ramtha Directorate of Education. To achieve its objectives, a DRTA-based instructional program and a pre- and post-reading comprehension test were developed. The results were statistically analyzed using SPSS.

Results: The study results showed that using DRTA made a statistically significant difference (at $\alpha = 0.05$) between the mean scores on the pre-test and the post-test. They also showed improvement in the sample's reading comprehension resulting from the reading activities in which the participants were involved in the program.

Conclusions: The study recommended using DRTA to improve students' reading comprehension. The study concluded that using DRTA is an effective learning strategy for improving students' comprehension. DRTA combines four techniques: *predicting, reading, confirming or refuting, and justifying. These techniques are* used to enhance reading comprehension.

Keywords: DRTA, EFL learners, Jordan, Ministry of Education, reading comprehension, Yarmouk University.

فاعلية استراتيجية نشاط التفكير الموجّه في القراءة (DRTA) في فهم المقروء لدى طلبة الصف العاشر الأردنيين متعلمي الإنجليزية لغة أجنبية

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ملخّص

الأهداف: هدفت هذه الدراسة إلى تعرُّف مدى تؤثر استراتيجية نشاط التفكير الموجّه في القراءة (DRTA) في فهم المقروء لدى طلبة الصف العاشر الأردنيين متعلمي الإنجليزية لغة أجنبية.

المنهجية: اتبعت الدراسة التصميم شبه التجريبي القائم على المجموعة الواحدة (القياسات المتكررة) من أجل قياس المتغير التابع مرة قبل المعالجة ومرة بعد المعالجة. واستمرت مدة التدريب ثمانية أسابيع خلال الفصل الأول من العام الدراسي (2021/2022). تكوّنت عينة الدراسة من ثلاثين طالبًا تم اختيارهم قصداً من طلبة الصف العاشر الأساسي في مدرسة الطرة الثانوية للبنين الحكومية التابعة لمديرية التربية والتعليم للواء الرمثا. ومن أجل تحقيق هدف الدراسة تم تطوير برنامجاً تدريسياً قائماً على استراتيجية (DRTA)، واختبار قبلي وبعدي في فهم المقروء وتم تحليلها إحصائياً باستخدام برمجية SPSS.

النتائج: أظهرت نتائج الدراسة فروقاً ذات دلالة إحصائية عند مستوى الدلالة ($\alpha = 0.05$) بين نتائج الاختبار القبلي والبعدي يعزى إلى استخدام البرنامج التدريسي. وأظهرت أن نتائج الدراسة التحسن في مهارات فهم المقروء للمشاركين ناتج عن أنشطة القراءة التي قام بها المشاركون في البرنامج التدريسي.

الخلاصة: وتوصي الدراسة بضرورة استخدام استراتيجية (DRTA) في تحسين مهارات الطلبة في الفهم المقروء. وتوصلت الدراسة بأن استراتيجية DTRA من استراتيحيات التعلم الفعّالة لتحسين استيعاب الطلبة. تجمع استراتيجية DRTA اربعة أساليب، وهي: التنبؤ، والقراءة، والتأكيد/ الرفض، والتبرير — وهذه بحد ذاتها الاستراتيجيات المتسخدمة لتعزيز الاستيعاب.

الكلمات الدالة: استراتيجية (DRTA)، فهم المقروء، طلبة اللغة الإنجليزية الأردنيين، الأردن، جامعة اليرموك.

1. Introduction

Comprehension is considered the cornerstone of the reading process. In the reading process, students use their background knowledge and the linguistic and rhetorical aspects of the text to achieve comprehension. Carrell and Eisterhold (1983) state that comprehension is an active process involving interaction between the students and the text. Perez (1998) and Pressley and Block (2002) define *comprehension* as an interaction with the text associated with the information being read and the personal background knowledge that the reader brings to the text. Brassell and Rasinski (2008, p. 18) add, "Comprehension occurs when a reader can act on, respond to, or transform the written text's information in ways that demonstrate understanding. In this way, comprehension represents a cornerstone in building up the schemata; comprehension enlarges background knowledge, and in turn, reading proficiency increases and develops (Watkins, 2017).

One principal aim of teaching reading comprehension is thinking; to this end, readers can construct and infer meaning effectively. Another principal aim of teaching reading is to get information with a fully adequate understanding of the text. Besides, reading comprehension aims to make students understand the process and develop their reading skills (Shastri, 2010). Hence, teaching reading comprehension is an interactive process between the readers (students) and the teacher since it enables students to think actively, which allows them to predict the text they read (Kompyang, 2017).

2. Reading Comprehension Sub-Skills

Numerous reading skills feature understanding various types of reading texts. Davis (1968) divides reading comprehension skills into five skills. These skills are recalling word meanings (knowledge of word meanings); drawing inferences from the text, following the structure of a text, recognizing the author's purpose, attitude, tone, mood, and answering recall questions (questions whose answers are found in the text). Rosenshine (1980) categorizes reading comprehension skills into information sequence recognition, recognizing words in context, identifying the main ideas, decoding the details, inferencing, recognizing cause and effect and comparing and contrasting. While Jordan (1997) adds more reading comprehension skills, they entail prediction, skimming, scanning, differentiating between facts and opinions, drawing conclusions and inferences, understanding graphic organizers, and understanding text structures and linguistic aspects.

Grabe and Stoller (2002) list 18 reading comprehension skills. Specifically, they include identifying the purpose of the text, planning a reading process, previewing a text, predicting the content of a text, verifying prediction, generating questions about the text, stating answers to questions, comparing the text to existing schemata, summarizing, inferencing, analyzing the text structure, re-reading, using discourse markers to understand text relations, checking comprehension accuracy, tracking reading difficulties, repairing comprehension failures, criticizing a text, discussing and reflecting what has been learned.

In this study, the selected skills are *skimming, scanning, giving opinions, prediction, summarizing, paraphrasing* and *inferencing*. This selection is due to the fact that these skills are integrated and utilized in the reading activities in *Action Pack 10*; upon content analysis findings, DRTA techniques are presented in *Action Pack 10* explicitly and implicitly, and there is a strong emphasis on them. Characteristically, reading comprehension skills are defined with some details as follows:

Skimming, or gist reading, is a skill that requires readers to get general information or a summary about a specific topic. In this respect, some tasks help develop this skill: asking for the title of the text, the topic sentence of the paragraph, summarizing, etc. (Shastri, 2010). Talbot (2009) states that when a reader skims a text, he or she takes the essential information from the text without reading every word. *Scanning* is a skill that requires readers to locate a specific piece of information without necessarily understanding the rest of the text (Richards & Schmidt, 2010). Readers examine the written text by looking through the text in order to find out an answer to a question, a specific date, or to identify a name (Hedgcock & Ferris, 2009).

Giving an opinion is a skill that requires readers to express their own opinions or make their own judgments about a fact after they read and comprehend the text. Readers' previous experiences can assist in decision-making about the text

and promote their thinking (Mikulecky & Jeffries, 1996; Berry, 2005).

Prediction is a reading skill that requires readers to make educated guesses on what the authors will say next based on what is known from reading the text. Prediction also involves readers' background knowledge and understanding of the text (Day & Park, 2005; Moreillon, 2007). Looking at the title, seeing pictures, reading the subtitles, and reading the blurb help readers predict what they read (Tankersley, 2005).

Summarizing is a skill that requires readers to retell or rewrite the most significant parts of a text in a shorter form (Mikulecky & Jeffries, 1996). Summarizing is a reading and writing skill at the same time. Effective summarizing requires readers to understand the main ideas and distinguish between the main ideas and the minor details (Hedgcock & Ferris, 2009).

Paraphrasing is a skill that requires readers to express the ideas of the original text differently, using other words or phrases to facilitate their understanding of the meaning (Katims & Harris, 1997; Richards & Schmidt, 2010). Paraphrasing is beneficial for readers as it develops their understanding levels. In addition, it is a perfect way to ensure whether the readers understand the ideas of the text and can restate them in their own words or not (Munro, 2005).

Inferencing involves students' literal understanding of the text and their background knowledge and intuitions (Day & Park, 2005). Inferencing is a skill that requires readers to read between the lines, as the topic of the text may not be stated directly. This means the reader must look for clues and try to understand what the text is about and what the author wants to state implicitly (Harp & Brewer, 1991; Mikulecky & Jeffries, 1996; Day & Park, 2005).

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3. Levels of Comprehension

Reading comprehension occurs at different levels. Barrett (1972) identifies four types of reading comprehension: literal, recognition (recall), inferential and appreciative. Shastri (2010) states five reading comprehension levels: the global, the local, the referential, the inferential, and the evaluative. At the same time, Richards and Schmidt (2010) introduce four types of reading comprehension levels: the literal, the inferential, the critical (evaluative), and the appreciative. In this study, literal, inferential, and critical levels are the focus levels of investigation.

Literal comprehension is also called 'local comprehension.' At this level, the reader can understand and identify the individual points of the stated information in the text explicitly. In other words, the writer has explicitly stated that information is directly available in the text (Richards & Schmidt, 2010). Barrett (1972) divides this level into two sub-levels: recognition and recall. In recognition, the readers can find the ideas mentioned in the text directly; they are straightforward. While in the recall, the explicit ideas mentioned in the text are produced from memory. Hence, the questions begin that with *who, what, why, where*, and alike require readers to recognize or recall specific information stated directly in the text (Day & Park, 2005; Muayanah, 2014). In this case, readers do not need to go in-depth and read between the lines to answer the questions because the meaning is on the surface and direct.

Inferential comprehension is the second level of reading comprehension. The ideas mentioned in the text are stated

implicitly. Hence, the readers must comprehend these ideas, which are not directly stated in the text. It is a higher skill that needs more thinking from readers (Shastri, 2010). Day and Park (2005) indicate that this type of level goes beyond literal understanding, and the questions are more difficult since the answers are not on the surface; it needs to link the literal level with readers' knowledge and their intuitions. In other words, the reader must understand what has been said in the text and what has been chosen to leave unsaid.

Critical comprehension is the third level of reading comprehension. At this level, the reader makes a judgment on the truth or value indicated in the text to find out what the author is trying to say and to what extent he/she was successful in saying it. Nuttall (1996) and Day and Park (2005) state that this level requires both literal understanding and readers' knowledge about the topic of the text. Also, readers might show their point of view about the text in terms of agreeing and disagreeing with the author's attitude and his / her statements (Shastri, 2010). Richards and Schmidt (2010) state that critical reading aims to compare the information contained in the text with the reader's values and knowledge.

These three levels are described as reading the lines, reading between the lines, and reading beyond the lines, respectively. Teachers must be aware of these levels to achieve the purpose of teaching reading comprehension- uttering the words, constructing meaning, and solving problems and analysis. This can be achieved by developing the learners' skills and critical abilities, as these skills cannot develop spontaneously without instruction (Robinson & Good, 1987).

4. Statement of the Problem

In light of the researchers' teaching experience at schools, reading comprehension skill for English foreign language learners (henceforth, EFL learners) in the Jordanian schools is a challegne at both basic and secondary levels. EFL learners have difficulties in comprehending the reading texts. Thus, they fail to answer literal, inferential and critical reading comprehension questions. Many research studies (Sarairah, 2006; Baniabdelrahman, 2006; Al-Ma'ani, 2008; Al- Odwan, 2008; Radaideh, 2020; Al-Ali, 2020) emphazise that reading comprehension lessons are carried out conventionally in most Jordanian classrooms; students are asked to read a text, the English vocabulary are presented in a list then they are asked to answer the questions based on the text.

As such, this study will find out the effectiveness of a reading strategy; namely, the DRTA strategy and finds out if it helps EFL students in achieving reading comprehension with specific reference to comprehension levels; literal, inferential as well as critical.

5. Purpose of the Study

This study aims to investigate the effectiveness of the DRTA strategy on EFL Jordanian tenth students' reading.

6. Questions of the Study

This study attempts to answer the following question:

- Are there any statistically significant differences in students' reading comprehension (literal, inferential, critical) due to the use of the teaching method?

7. Significance of the Study

The significance of the study may reside in improving EFL students' reading comprehension through using the DRTA strategy. The results of the sudy could be benetiful for EFL teachers in overcoming their students' reading comprehension difficulties. The results of the study may be useful as it helps textbook designers to design textbooks intergrating the DRTA as strategy the textbooks. In addition, the study may be beneficial since it could catch the EFL supervisors' attention and take their interests in holding training courses or workshops for the EFL teachers to enhance the DRTA strategy use in the classroom.

8. Operational Definitions of Terms

The study consists of several terms defined operationally as follows:

Directed Reading Thinking Strategy (DRTA): According to Camp (2000, p,8), the DRTA is "a general plan for directing the reading of content area reading selections or basal reader stories and for encouraging children to think as they read, to predict, and to check their predictions". This strategy was developed by Russell Stauffer in 1969. It is a strategy intended to develop students' ability to read critically and reflectively. It provides conditions that would produce readers who could think, learn, and test. the DRTA strategy aims at equipping readers with the ability to determine the purpose for reading; the ability to extract, comprehend, and assimilate information; the ability to examine reading material based on purposes for reading; the ability to suspend judgments and the ability to make decisions upon information gleaned from reading (McIntosh & Bear, 1980; Tierney & Readence, 2005).

In this study, DRTA was introduced for 10th grade students through an instructional program that lasted for eight weeks successively while entailing the following stages per each reading lesson. First, the teacher encouraged students to think deeply about the teacher's questions and make their predictions, thereby, accepting it as logical or not. Second,the teacher followed guided silent-reading strategy to make predictions on what students have read. To this end, it facilitated comprehension skills and reading strategies. Third, in the post-reading stage, the teacher verified students' predictions based on new information, thereby, promoting their higher thinking skills.

Reading comprehension: it is an active and deliberate thinking process in which the intended meaning or message is gained or constructed through interactions between readers and written texts (Harris & Hodges, 1995). In this study, **reading comprehension** was measured in terms of how many literal, inferential and critical reading comprehension questions a participant answers correctly in the reading comprehension test developed by the researchers.

9. Limitations of the Study

The current study will be conducted within the following limitations:

1. The study will be restricted to male tenth-grade students in a public school in Al-Ramtha Directorate of Education, in the academic year 2021/2022, so that the results of the study can be generalized to the students studying in similar contexts or conditions.

2. The study will last for only eight weeks. The longer or shorter duration may have different results.

3. The study will be limited in scope to reading comprehension skills pertinent to literal, inferential, and critical comprehension levels presented in the first three modules in *Action Pack 10*.

10. DRTA

DRTA is a strategy that aims at improving students' reading comprehension. Stauffer first introduced this strategy in 1969. It originated from the Directed Reading Activity (DRA), a traditional and text-based approach to teaching reading developed by Betts in 1946. This traditional strategy entails using question/answer patterns while teaching reading. The main goal of DRA is "to monitor the kinds of thought tasks children can do in response to what they read" (Harp & Brewer, 1991, p. 357). This strategy uses basal reader programs (Harp & Brewer, 1991; Renn, 1999). These programs teach reading with several graded parts and introductory reading textbooks (Richards & Schmidt, 2010).

DRA followed six steps of teaching reading. These steps build students' background knowledge and introduce vocabulary, setting the purpose for reading, directed reading, comprehension questions, discussions, practicing, and skill development and enrichment activities (Harp & Brewer, 1991; Renn, 1999). However, this strategy provides teachers and readers with activities rather than comprehension skills and strategies, and the instruction of direct comprehension is not sufficiently provided by the reading texts (Durkin, 1981; Reutzel & Cooter, 1996). Besides, it depends on texts in a typical way (Renn, 1999). Thus, the main difference between DRTA and DRA is that DRTA was designed to help students to read critically and reflectively. In addition, DRTA includes prediction, which is considered an essential skill to monitor comprehension processes. Consequently, it is viewed as a component to teach metacognitive strategies (Vacca & Vacca,

1996; Aghdam & Behroozizad, 2018). Haggard (1988) asserts that DRTA is used to develop students' metacognition and monitor their comprehension since they are encouraged to use their metacognitive skills in the reading-thinking process.

Petre (1971) differentiates between DRA and DRTA strategies. DRA is behaviorist-based, which means that the teacher has a dominant and central role in monitoring students' activities related to the text, and there is a linear relationship between the teacher and students. In other words, DRA is a closed-wheel or star strategy. The teacher asks a question (*stimuli*), and the students answer the question (*response*). While DRTA is cognitivist-based which depends on students' activity and benefits from constructivism to build students' knowledge by themselves, depending on their prior knowledge related to the text they read. The roles of the teacher are organizer, moderator, and intellectual agitator, while students are active participants in their groups. In addition, two communication patterns are established by DRTA and DRA strategies. DRTA establishes an all-channels-open relationship inside the classroom, i.e. (teacher-student-student-student), in contrast to the closed-wheel linear relationship in DRA lessons (teacher-student-teacher-student).

According to Camp (2000, p, 8), DRTA is "a general plan for directing the reading of content area reading selections or basal reader stories and encouraging children to think as they read, predict, and check their predictions". Stauffer based his notions on the belief that reading is a thinking process that involves the reader using his / her experience to reconstruct the author's ideas. The reconstruction begins with generating hypotheses based on the reader's doubts and desires. It continues with the reader's acquisition of information and the generation of further hypotheses during reading. It involves resolving the reader's doubts and desires (Tierney & Readence, 2005). This enables readers to think, learn, criticize what they read, and put it to the test.

In this case, Stauffer (1969) suggests that

"These readers will learn to have the strength of their convictions and the courage to deal with ideas. They will not be fearful but courageous, not blind but discerning; not hasty but deliberate; not deceitful but honest; not muddled but articulate; not acquiescent but militant; not conceited but modest; not imitative but original" (p, 84).

DRTA is a framework developed to teach reading (Nerim, 2020). It is an essential strategy since it activates readers' past experiences and background knowledge (Renn, 1999). Therefore, this strategy mainly benefits from schema theory, which helps them comprehend the text. This strategy is helpful since it can improve students' comprehension, vocabulary, fluency, and word recognition skills (Singleton, 2009). Richardson and Morgan (1997) indicate that DRTA encourages learners to use their higher thinking skills. These skills include relating between linked elements of the texts, interpreting thought processes, and making conclusions logically. They add that these skills enable learners to be independent, make their learning responsibility faster, and improve their reading comprehension. Jennings and Shepherd (1998) state that DRTA encourages learners to listen to their peers' opinions during the lesson and modify their own according to the new information they received.

Furthermore, Riley (2006) adds that DRTA is an essential strategy since it can increase achievement and promote thinking skills among students with low achievement. DRTA is a frame that provides learners with reading, monitors their interactions with the written text, and helps make the written text comprehensible and extend its meaning of the text. There are two main components that DRTA includes process and product. The process component includes identifying of purpose, directing learners' rate adjustment to suit their purposes, observing the learners' reading processes to check any difficulties and assist them, and enhancing their comprehension, while the product component includes skill-building activities (Witherspoon, 1995; Vacca & Vacca, 1996; Renn, 1999). According to Duke and Pearson (2002), DRTA teaches readers to self-monitor while reading a text. In addition, Erliana (2011) indicates that DRTA developed students' self-confidence in doing their tasks. As a result, their attention, achievement, and comprehension increase.

DRTA is a helpful strategy to process all types of written texts at a high level of thinking, and it can be used in all subjects (Vacca & Vacca, 1996; Shepherd; 1978; Tankersley, 2005). Besides, Ruddell (2002), Stahl (2008), and Yazandi and Mohammadi (2015) indicate that DRTA could be used to help students to read not only narrative texts but also argumentative, expository, and descriptive texts. Maarof (2020) proposes four steps for implementing DRTA. The first step is choosing the reading text genre (poetry, short story, folk tale, etc.). The second step is deciding the stopping points, such

as asking students to stop after reading the title, using logical breaks, looking at subheadings, parts of the chapters, etc. The third step is asking questions at the stopping points. For instance, what will the text/article be about according to the title? Why? What do you think? What do you think we will learn / will happen/find out next?

Moreover, if necessary, the fourth step is giving cover sheets to be used by students to cover text stopping points. Logical stopping points include subheadings, end of chapters, or high points of a text (Tankersley, 2005). The steps of DRTA are carried out in a cyclic process, not a linear one. Predictions are made, then each section of the text is read, then checking whether the predictions are supported or not, finally proving the predictions from the text. This cycle is repeated until the test is finished (Cruse, 2007; Draheim, 1986; Mesmer, 2016). The structure of DRTA obliges students to justify their ideas and link their opinions back to the text (Tankersley, 2005).

DRTA is an acronym of Directed Reading Thinking Activity. Each initial in DRTA represents a word; **D-** represents Directed. The teacher directs and stimulates his / her learners' thinking before reading a text by asking them to scan the title, chapter headings, illustrations, and other materials. The teacher should ask open-ended questions to direct the students' predictions about the content or perspective of the text. **R-** stands for Reading. Students are asked to read. Then, they are invited to find specific information in the text and asked to assess and refine their predictions if needed. This process is continued until the learners can read each section of the text altogether. **T-** means Thinking. By the end of the reading, learners are asked to go back to the text and think about their predictions. Then, they are asked to verify or modify them by finding supportive evidence or statements mentioned in the text (Abdel-Jawwad, 2018; Al Mutairy, 2015; Welson, Abdel-Haq, & Kamil, 2020).

The principal aim of using DRTA is to make students independent readers while reading. Al-Odwan (2012) states that DRTA is a solid model to build readers' independence. Moreover, DRTA is an active process; students can think and use their ideas (Tierney, Readence & Dishner, 1995; Almasi, 2007). Furthermore, DRTA is valuable since students can make predictions before reading any subheading or section. Allen (2007) states that the power of DRTA resides when the teacher monitors his / her students and guides them to be sure about their predictions after reading the texts. Tierney, Readence, and Dishner (1995) add that the possible benefits of DRTA are to prepare readers to identify their reading purposes, examine reading texts in light of these purposes, draw judgments and make decisions based on the information extracted from the written text. Glass and Zygouris (2006) add other aims of this strategy; it stimulates students' thinking and development of their hypotheses about the text; this helps them to interpret and comprehend the text they read, it also enhances students' understanding of the purposes and effects of the structures of the text and their features. They add that this strategy amplifies students' curiosity about specific texts and types of texts.

In addition, DRTA provides the teacher opportunities to direct their learners to think similar to good readers do by anticipating, making predictions, verifying, and modifying their thoughts or ideas with the story (Blachowicz & Olge, 2008; Yazandi & Mohammadi, 2015; Megawati, 2019). Furthermore, Tankersley (2005) indicates that teachers could learn a lot about their learners by listening to their ideas, values, reasoning, and background knowledge.

According to Vacca and Vacca (1996), Abdullah (2014), and Nerim (2020), DRTA can be done either individually or in small groups at any level. Stauffer (1967) indicates that when DRTA is implemented in groups, it should be used between eight to twelve students. However, the most challenging part when preparing DRTA for novice teachers is identifying the stopping points in the lesson sequence (Maarof, 2010). DRTA offers several merits for students. First, it leads students to direct thinking of the topic to stay focused on the text they read and help them prove their predictions (Hasanudin, Said, & Rumalean, 2020). Second, it enables students to be more aware of reading strategies, reading processes, and prediction skills (Jennings & Shepherd, 1998; Glass & Zygouris, 2006). Third, it presents a positive teaching atmosphere for students (Renn, 1999) when DRTA is done individually or in groups. Finally, it helps students be active, thoughtful, enthusiastic readers and recall more information about what they have read or learned (Abisamara, 2001; Hans & Hans, 2013).

However, some drawbacks can be addressed to DRTA. This strategy is only beneficial when the text is read or heard for the first time. As mentioned earlier, this strategy copes with making predictions, so the texts should be novel. Therefore, teachers should be well-trained with the text to ensure that it has never been provided for the learners before (Billmeyer &

Barton, 1998). Another drawback is classroom management, which could be problematic, particularly for the big classes. In other words, there could be some difficulties for the teacher in leading or controlling discussions concerning making predictions. The teacher should be trained in organizing the students by grouping them according to their interests in the text. This means that the teacher should know students' needs by selecting texts they are interested in (Conner, 2006; Wardana, 2015; Yuliana, 2015).

DRTA is intended to develop students' ability to read critically and reflectively. It provides conditions that would produce readers who could think, learn, and test. DRTA aims at equipping readers with the ability to determine the purpose for reading, the ability to extract, comprehend and assimilate information, the ability to examine reading material based on purposes for reading, the ability to suspend judgments, and the ability to make decisions upon information gleaned from reading (McIntosh & Bear, 1993; Tierney & Readence, 2005). As the main purpose of the reading text is to develop comprehension, teaching them should be strategic, not haphazard. Teachers follow a systematic strategy in order to achieve this goal.

DRTA has precise steps that continue throughout the whole reading process to ensure comprehension. It is worth noticing that practice might sometimes be challenging because of either lack of time, lack of experience, or lack of tools. Another advantage of DRTA is that some strategies develop lower-order thinking skills; others concentrate on higher-order thinking skills. Usually, there is a gap between the two sets of skills. One of the best strategies to balance the two sets of skills is DRTA. DRTA predicts i.e. it activates the schemata and involves the background of the reader to guess and make his/her hypotheses about the text.

DRTA, in this case, helps the reader gradually identify the purpose of the text and hyperlink previous knowledge. The reading process provides the reader with the necessary information and conveys the reader from the stage of predicting to the state of confirming or refuting. The reader is using his/her experience, skills, and knowledge to refute or confirm his/her predictions, i.e., he/she is thinking and reflecting. Justification is the final stage in which students think about what they have acquired and learned. In such progression, the readers' comprehension develops, becoming independent readers.

11. DRTA and Reading Comprehension

Learners need effective strategies which help them to develop their learning in order to achieve their success academically. Thompson (2007) affirms that educators need to consider another strategy appropriate for all learners' learning styles and equip learners to be academically successful unless they use conventional teaching methods. Renn (1999) indicates that reading specialists agree on the importance of using a systematic and research-based teaching strategy that teaches them several skills and strategies to comprehend the reading text. If learners comprehend the material, DRTA is considered a strategy built on the main components of teaching reading comprehension skills.

In the same vein, Sarairah (2006) indicates that DRTA has increasingly caught the attention of researchers and teachers recently. They searched for strategies and models to increase learners' reading comprehension, and this strategy is considered an example of a learning strategy to improve reading comprehension. Gillet and Temple (2000) and Tierney and Readence (2005) state that DRTA was recommended as an effective strategy to improve learners' reading comprehension.

12. Empirical Research

Numerous studies were carried out to investigate the effect of the DRTA strategy on students' reading comprehension. The researchers reviewed the related literature to find out to what extent DRTA is present in literature. Also, they reviewed the methodologies, the tools and contexts in which DRTA was investigated. Most of the studies found that DRTA has an effect on improving students' reading comprehension. Some others found that DRTA has no effect on students' reading comprehension (Yosef, 1989; Almanza, 1997). This part of the study investigates the related previous studies thoroughly.

Petre (1971) investigated pupil responses' quality, quantity, and variety when using the DRTA and the DRA strategies. The sample of the study consisted of 120 students of fourth grade divided into two groups; one was taught using the DRTA

strategy, while the other group was taught using the DRA strategy. The study was carried out in two nearby elementary schools, Baltimore, Maryland. The instrument of study was Pupil Response Scale. The findings of the study revealed that the DRTA strategy was superior to the DRA strategy.

Neal (1988) compared and contrasted the effect of the DRTA strategy and the DRA strategy on students' reading comprehension. The participants of the study consisted of 242 students of fourth grade of East Alabama Schools. The instrument of the study was a pre-posttest. The study divided the students into an experimental group subjected to the DRTA strategy, while the control group was subjected to the DRA strategy. The study revealed that the experimental group was better than the control group in terms of reading comprehension.

Yosef (1989) examined the effect of two schema-based strategies on Egyptian second-year high school students' comprehension of English as a foreign language. The study participants consisted of ninety-nine students randomly assigned into three groups. The first group was taught using DRTA. The second group was taught using the SQ3R (Survey, Question, Read, Recite, and Review) strategy, while the third group was taught using a conventional method. The instrument of the study was a reading comprehension test that measured literal and inferential levels. The study did not indicate any significant differences in literal, inferential, or overall comprehension among the three groups.

Ismail (1994) examined the effect of the DRTA strategy on developing students' thinking. The participants of the study consisted of forty-six students in a school in Egypt. The instrument of the study was a thinking skills assessment. The results of the study showed that the DRTA strategy promoted students' critical thinking.

Almanza (1997) compared the effect of cooperative learning with DRTA on reading comprehension. The study participants were fifty-three students of two classes in sixth grade in Brooklyn, New York. They were divided into four groups and taught four stories. The instrument of the study was a comprehension test. The study indicated that most students' scores in the cooperative learning strategy were better than their peers from DRTA.

Renn (1999) examined the effect of DRTA on students' reading comprehension. The study participants were forty students in the second grade at the D Street Elementary School in Needles, California. They were divided evenly into experimental and control groups. The experimental group was taught through DRTA, while the control group was taught through DRA. The instrument of the study was a reading comprehension test. The results indicated that there are no significant differences between the two groups.

DeFoe (1999) investigated the use of DRTA on students' reading comprehension skills. The participants of study were students in middle grades in a middle school in Georgia, USA. The study showed that students' reading comprehension improved. However, such improvement was not significant.

Mhaidat (2003) investigated the effect of the DRTA strategy and learning style on students' reading comprehension. The study sample consisted of fifty-eight tenth-grade female students in Rufiada Aslamiah Basic school for girls, Irbid, Jordan. The students were divided into two groups- the experimental group and the control group. The instrument of the study was a pre-posttest in reading comprehension and learning style measure. The experimental group was taught through the DRTA strategy, while the control group was taught conventionally. The study showed that students' reading comprehension skills improved due to the treatment. The study also showed that learning style does not affect students' reading comprehension.

Sarairah (2006) explored the effect of the DRTA strategy and the learning style on EFL Jordanian students' literal and inferential reading comprehension achievements. The treatment was carried out in a public school in Irbid during the academic year 2005/2006. The participants of the study consisted of eighty-five students in eleventh grade divided into an experimental group of forty-two students and a control group of forty-three students. The experimental group was subjected to the DRTA, whereas the control group was subjected to a conventional method. The study used a reading comprehension test. The results showed that students' reading comprehension was enhanced, particularly at the inferential level with the elaborative processing students.

El-Koumy (2006) explored the use of the DRTA strategy on EFL students' referential and inferential comprehension. The participants of the study were seventy-two students in a Secondary School for Boys in Egypt. They were divided into

two groups; the experimental group was subjected to the DRTA strategy, while the control group was subjected to the conventional method. The instrument of the study was used as a referential and inferential reading comprehension test. The results showed no significant differences in both referential and inferential reading comprehension between the two groups. Nevertheless, the results showed statistically significant differences in both referential and inferential reading comprehension on the post-test in favor of the experimental group. The results also showed that referential and inferential comprehension skills were developed from using a strategy that obliges students to use while reading.

Elfira, Marhum, and Mashuri (2015) explored the effect of the DRTA strategy on improving students' reading comprehension. The sample of the study consisted of twenty-seven students of eighth grade at SMP Negeri 12 Palu, Indonesia. The instruments of the study were observation and pre-posttest. The study results showed that the use of the DRTA strategy could improve students' reading comprehension. However, the study showed that students during the learning-teaching process were not active and had difficulties comprehending the material.

Ismail (2018) investigated using the DRTA strategy to improve students' reading comprehension. The sample of the study consisted of twenty students of tenth grade at Pembangunan Kota ternate school, Indonesia. This study was carried out in one class. The study used a reading comprehension test. The findings of the study showed that students' reading comprehension improved.

Megawati (2019) investigated the effect of the DRTA strategy on students' reading comprehension. The study was carried out in STKIP Kusuma Negara, Jakarta. The study participants were forty students who were divided evenly into an experimental group and a control group. The study used a reading comprehension test of multiple choice. The study showed that students' reading comprehension in the experimental group increased.

Welson, Abdel-Haq, and Kamil (2020) examined the effect of the DRTA on enhancing student's reading comprehension and metacognitive awareness. The study participants consisted of thirty-eight first-year English students in the Faculty of Education, Aswan, Egypt. The students were one experimental group, which was subjected to the DRTA strategy. The instrument of the study was a reading comprehension test and a metacognitive awareness scale. The results of the study showed that students' reading comprehension skills and metacognitive awareness enhanced due to the DRTA strategy.

13. Concluding Remarks

After reviewing the literature on the DRTA strategy, the researchers have drawn various conclusions. The DRTA is not a new strategy, and it is applied in varied different contexts in the world. As stated earlier by Renn (1999), the DRTA is based on a previous strategy called Directed Reading Activity (the DRA), which was developed in 1946 by Betts. The DRA is a text-centered strategy based on asking basic questions and answering them in a specific pattern. One type of active learning strategy enables students to read actively and comprehend written texts compared to conventional teaching methods.

14. Design and Variables of the Study

A one-group pre-/posttest design (repeated measures) was utilized to investigate the effectiveness of DRTA in EFL Jordanian tenth students' reading comprehension. The dependent variable is students' reading comprehension performance, whereas the independent variable is DRTA (i.e., the dependent variable is measured once before the treatment is implemented and once after it is implemented).

Two features characterize this research design. The first feature is using a single group of participants (i.e., a one-group design). This feature denotes that all participants are part of a single condition—meaning that all the participants are given the same treatments and assessments. The second feature is a linear ordering that requires the assessment of dependent variables before and after the treatment is implemented. The rationale behind selecting this design is because there are six classes or sections for the tenth grade students in the target school and each class/section has a different teacher from the others in order to control the effect of the teacher on the treatment and to achieve the internal validity of the study.

15. Population and Sample

The researchers selected Turra Secondary School for Boys as a convenient sample. Then, one out of six classes of tenth-grade students was purposefully assigned as a treatment group randomly. The mean age of the participants is 15 years old.

16. Instruments

In order to fulfill the objectives of the study, a pre-post reading comprehension test was used as an instrument of the study.

17. Reading Comprehension pre-post Test

A reading comprehension test was designed to measure students' literal, inferential and critical reading comprehension before and after the treatment. The test was designed in light of the criteria of the Table of Specifications. It consists of 12 items: three are multiple-choice, and the others are open-ended (short answers). The Table of Specifications is illustrated below.

Table 1: Table of Specifications of Reading Comprehension Levels: Literal, Inferential and Critical

No.	Number of question	Type of Reading Comprehension Level	Score	Weight	Type of question
1.	1-2	Literal	2	10%	multiple-choice
2.	3-6	Literal	4	20%	open-ended
3.	7- 8	Inferential	4	20%	open-ended
4.	9	Inferential	2	10%	multiple-choice
5.	10	Inferential	2	10%	open-ended
6.	11-12	Critical	6	30%	open-ended
Total		--	20	100%	--

18. Validity and Reliability of the Instruments

To validate the research instruments, the reading comprehension test and attitudinal questionnaire were piloted to 16 students. The details are in the following sections.

19. The Reading Comprehension pre-post Test

Item difficulty and item discrimination for each item of the reading comprehension test were extracted. Furthermore, evidence regarding test reliability and validity has been collected.

20. Item difficulty and item discrimination

The difficulties and the discriminations for the test items were extracted. It has been piloted to a sample of 16 participants. Table 2 shows the reading comprehension test's difficulty and item discrimination.

Table 2: Summary Results of Difficulties and Discriminations Indices for the Test Components Sub-skills

item	Item Difficulty	Item Discrimination
1	.720	.438
2	.637	.507
3	.616	.503
4	.474	.546
5	.500	.547
6	.444	.610

item	Item Difficulty	Item Discrimination
7	.520	.599
8	.437	.521
9	.316	.507
10	.329	.503
11	.376	.546
12	.312	.547

Table 2 shows that the item discrimination indices of the reading comprehension test items ranged from .438 to .610, all of which are of high discrimination (greater than .20) (Brown, 1983). The difficulty levels ranged from .312 to .720, and where Doran (1980) indicated that any item within the distribution of difficulty indices from .20 to .80 could be acceptable, and therefore the reading comprehension test clauses have an acceptable degree of difficulty and discrimination indices.

21. Reading Comprehension pre-post Test

Item difficulty and item discrimination for each item of the reading comprehension test were extracted. Furthermore, evidence regarding test reliability and validity has been collected.

22. Item difficulty and Item Discrimination

The difficulties and the discriminations for the test items were extracted. It has been piloted on a sample of 16 participants. Table 3 shows the reading comprehension test's difficulty and item discrimination.

Table 3: Summary Results of Difficulties and Discriminations Indices for the Test Components Sub-skills

item	Item Difficulty	Item Discrimination
1	.720	.438
2	.637	.507
3	.616	.503
4	.474	.546
5	.500	.547
6	.444	.610
7	.520	.599
8	.437	.521
9	.316	.507
10	.329	.503
11	.376	.546
12	.312	.547

Table 3 shows that the item discrimination indices of the reading comprehension test items ranged from .438 to .610, all of which are of high discrimination (greater than .20) (Brown, 1983). The difficulty levels ranged from .312 to .720, and where Doran (1980) indicated that any item within the distribution of difficulty indices from .20 to .80 could be acceptable, and therefore the reading comprehension test clauses have an acceptable degree of difficulty and discrimination indices.

23. Validity of the Test

The test was presented to a jury of 12 experts specialized in Educational Psychology, English language curricula and teaching methods, experienced EFL teachers, EFL supervisors who work at the Ministry of Education, and other colleagues who had a

Ph.D. in TEEL from different universities. Based on the experts' comments, the content of the test has been modified.

24. Reliability of the Test

The test was administered to the pilot sample twice to verify test-retest reliability, and Pearson Correlation Coefficients were extracted. Furthermore, the Cronbach Alpha approach was employed to verify the internal consistency. Table 4 illustrates test-retest reliability and Cronbach Alpha Coefficients for each sub-skill of the reading comprehension and whole tests.

Table 4: Summary Results of Reading Comprehension Test Reliability

Component	Number of Items	Test-retest Coefficient	Alpha Coefficient
Literal	6	.81	.79
Inferential	4	.83	.82
Critical	2	.79	.78
Total	**12**	**.88**	**.89**

Table 4 shows that the test-retest reliability index for literal, inferential, critical, and the entire test (total), was .81, .83, .79, and .88, respectively. Also, the Cronbach Alpha reliability index for literal, inferential, critical, and the entire test (total), were .79, .82, .78, and .89, respectively. As such, the test is reliable (Cronbach, 1951).

Furthermore, the construct validity was evaluated by using correlation analysis. The reading comprehension test was piloted on 16 students from a sample outside the study where the Pearson Correlation Coefficient (R1) was extracted between the item score and the total score of the sub-skill measured per item. Moreover, a corrected item-total correlation (R2) was extracted between the item score and the total score of the sub-skill measured per item. Table 4 illustrates the results.

Table 5: Summary Results of Correlation Analysis (Construct Validity) of the Test

Sub-skill	item	R1	R2
Literal	1	.566**	.458
	2	.692**	.498
	3	.600**	.436
	4	.512**	.400
	5	.699**	.503
	6	.634**	.409
Inferential	7	.559**	.408
	8	. 544**	.423
	9	.521**	.401
	10	.599**	.476
Critical	11	.786**	.632
	12	.555**	.385

**Significant at (p< 0.05)

Table 5 shows that the Pearson Correlation Coefficient between the Item score and the total score of skill measured by the item for the reading comprehension test is statistically significant and above the threshold value (0.400). This indicates an acceptable internal consistency for reading comprehension tests (Bryman & Cramer, 1997). Furthermore, corrected item-total correlation (R2) between the item score and the total score of the sub-skill measured per item for the reading comprehension test, and all above the threshold value (0.400), indicates an acceptable degree of internal consistency for reading comprehension tests (Leech, Barrett & Morgan, 2011).

25. Results pertinent to the research question

The question of the research asks whether there are any statistically significant differences in students' reading comprehension (literal, inferential, critical) due to the use of DRTA.

To answer this question, the means and standard deviations of students' performance for the three sub-skills of students' reading comprehension (literal, inferential, critical) and the overall mean scores were extracted. Table 6 illustrates the results.

Table 6: Summary Results of Means and Standard Deviation of Reading Comprehension Sub-Skills for the Pre-test and Post-test

Sub-skill	Time	Mean	Standard Deviation
Literal	Pre-test	2.100	.607
	Posttest	5.167	.913
Inferential	Pre-test	3.733	1.388
	Posttest	6.000	1.438
Critical	Pre-test	2.900	.403
	Posttest	5.433	.935
Total	Pre-test	8.733	1.230
	Posttest	16.600	1.329

***The maximum score for literal is 6, 8 for inferential, 6 for critical, and 20 for the total score.**

Table 6 shows observed differences between the mean scores of students' performance in the pre-test and their mean scores of the post-test in the three reading comprehension sub-skills and the overall scores as measured by the reading comprehension test. In other words, students' means scores in the post-test are higher than the mean scores in the pre-test for each sub-skill (literal, inferential, critical) and the overall (Total) mean scores.

To investigate the statistical significance of the performance differences of the students in the pre-test and the post-test for each tenth reading sub-skills, a paired sample t-test (Repeated Measures) was conducted to investigate the effectiveness of DRTA in the tenth reading sub-skills (i.e., literal, inferential, critical) and the overall mean scores. Table 12 illustrates the results of a paired samples t-test for the difference between students' performance in the pre-test and the post-test for reading comprehension sub-skills and the overall scores.

Table 7: Results of a Paired Samples t-test for the Difference between Student Performance in the Pre-test and the Post-test for Reading Comprehension Sub-skills and the Overall Scores

Sub-skills	Time	Mean	Std Deviation	T- values	df	Sig.	effect size (d)
Literal	Pre-test	2.100	.607	-13.657	29	.000	0.406
	Post-test	5.167	.913				
Inferential	Pre-test	3.733	1.388	-10.094	29	.000	0.622
	Post-test	6.000	1.438				
Critical	Pre-test	2.900	.403	-14.807	29	.000	0.537
	Post-test	5.433	.935				
Total	**Pre-test**	8.733	1.230	-31.155	29	.000	**0.526**
	Post-test	16.600	1.329				

Table 7 shows that for the literal reading sub-skill, the results indicated that the mean score of the post-test (Mean =5.167, Std= 0.913) was more significant than the mean score of the pre-test (Mean=2.100, Std=0.607); t (29) = -13.657,

p<.01; the standardized effect size index, d, was 0.406 (large effect size according to Cohen (1988). In other words, DRTA enhanced students' performance in literal reading sub-skill.

For the inferential reading sub-skill, the results revealed that the mean score of the post-test (Mean =6.000, Std= 1.388) was significantly greater than the mean score of the pre-test (Mean=3.733, Std=1.438); t (29) = -10.054, p<.01; the standardized effect size index, d, was 0.622 (large effect size according to Cohen (1988). In other words, DRTA enhanced students' performance in inferential reading sub-skill.

For the critical reading sub-skill, the results revealed that the mean score of the post-test (Mean =5.433, Std= 0.953) was significantly greater than the mean score of the pre-test (Mean=2.900, Std=0.403); t (29) = -14.807, p<.01; the standardized effect size index, d, was 0.537 (large effect size according to Cohen (1988). In other words, DRTA enhanced students' performance in critical reading sub-skill.

For the overall reading skills, the results revealed that the mean score of the post-test (Mean =16.600, Std= 1.329) was more significant than the mean score of the pre-test (Mean=8.733, Std=1.230); t (29) = -31.155, p<.01; the standardized effect size index, d, was 0.526 (large effect size according to (Cohen, 1988). In other words, DRTA enhanced students' performance in their overall reading skills.

26. Discussion of the results of the question

The first question reported statistically significant differences (at α = 0.05) between the pre-test and post-test mean scores attributed to DRTA use. As shown in the previous chapter, the post-test score received direct and explicit DRTA instruction in *overall* reading comprehension and reading levels: *literal, inferential* and *critical* comprehension.

In light of the findings of the study, the researchers found that DRTA improved sample' reading comprehension. Levels of reading comprehension were significantly affected by DRTA strategy. The practical significance values indicate that DRTA has a high effect on literal, inferential and critical comprehension levels.

The findings support most of the previous studies on the effect of DRTA on students' reading comprehension. Specifically, Welson, Abdel-Haq, and Kamil (2020), in the study of the effect of DRTA on reading comprehension and metacognitive awareness, found that DRTA has a significant effect on university students. The present study's findings showed that DRTA significantly affected students' reading comprehension. Therefore, the findings of this study may increase the generalizability of the role of DRTA instruction in improving reading comprehension.

In contrast, few studies showed no significant effects of DRTA on students' reading comprehension. Yosef (1989) compared DRTA with the SQ3R, and a conventional method. The study revealed that DRTA has no significant effect on students' reading comprehension. Almanza (1997)'s study on sixth-grade students in a primary school in Brooklyn showed that most students' scores in cooperative learning strategy were better than their peers from DRTA. Renn (1999) showed that DRTA has no significant effect on students' reading comprehension. In addition, Defoe (1999) compared different strategies, namely, higher-order thinking and metacognitive skills and cooperative learning. Defoe's study showed a slight improvement in students' reading comprehension.

One possible explanation for the group's improvement in the overall reading comprehension post-test might be in terms of the design of the instructional program (the lesson plans). The instructional program was flexible with explicit procedures and techniques. For example, the flow of discussions between the researcher\teacher and his students during the program was smooth and easy-going. DRTA encouraged them to activate their schemata and background knowledge, think logically and critically, and make predictions about the reading texts extracted from the Student's Book in *Action Pack 10*.

In addition, the instructional program caught students' attention during the lessons. For example, before implementing the instructional program in previous semesters, it was noticed that their participation was weak and restricted to a few high-level students. However, during the instructional program, their participation increased, and low achievers and moderate level students took part in it. Moreover, they took part in discussions. Another thing is that they tried to apprehend the sequence and steps of the program.

Furthermore, DRTA provided the students with several skills, such as helping them understand the reading process and

developing their predictions, which helped improve their learning abilities. For example, they showed a more profound and further understanding of the topics during the discussion. Throughout the program, their predictions became more variant and more relevant. Also, the post-test showed progress in their abilities and overall performance.

Another possible explanation for improving the experimental group students' performance is the worksheets distributed at the end of each lesson. The worksheets were beneficial and valuable for the students in improving their reading comprehension skills. They included varied tasks; some worksheets, for instance, include comprehension questions on all levels (literal, e.g., worksheet (2): *What is the water carrier made of?*, inferential, e.g., worksheet (2): *Do you think Emily has succeeded in her inventions? Give evidence from the text* and critical, e.g., worksheet (2): *What skills and characteristics does Emily Cummins have as an investor?*). Others included *true* or *false* items/questions (e.g., worksheet (8): *Amber has formed from a sticky material from trees a long time ago /* worksheet (15): *Ancient Greek scholars carried out experiments on how humans can see*). While some others addressed students to summarise, compare and contrast, paraphrase, match, and fill from the table. Many students were interested in doing these worksheets. Some of them could not wait to do these worksheets at home. They did them before the end of each lesson.

The superiority of the students' performance in the reading comprehension post-test could be attributed to students' pair work during the in-class activities. Such technique, i.e., pair work, helped students to exchange their ideas and provided opportunities to express themselves. In addition, it enabled students to make predictions and think logically during the lesson. Furthermore, pair work encouraged students to participate more enthusiastically in the discussions during the lesson. The technique served DRTA to make predictions, think logically, and communicate.

Another explanation for improving the students' group performance in reading comprehension post-test may be cooperative learning while implementing the instructional program. When the students work cooperatively during the lessons, the researcher's / teacher's dominance is reduced. When students worked cooperatively, they could have more opportunities to talk and share ideas. This enabled them to promote their thinking skills and creativity and interact with the other groups in the same class, which, in turn, encouraged them to restructure their ideas. In addition, students' participation increased, which made the class as more captivating.

A further explanation for improving the students' performance in reading comprehension post-test might be that DRTA hepled readers to become independent. This enabled students to be independent readers responsible for their learning. It encourages students to use higher thinking skills It encouraged students to use higher thinking skills, use interpreting processes, and finally draw logical conclusions. As a result, their reading comprehension improved.

DRTA also improved the students' automaticity while implementing the training program. While discussing and sharing their ideas, the students could express themselves and use the language communicatively during the lessons. In other words, they were able to carry out the activities and tasks and process information, yet with relatively few grammatical errors; for example, when asked the question in the reading comprehension post-test: *What would happen if the loggers reached this rainforest and destroyed it?* Their answers ranged from mistaken or relatively correct after implementing the test. Most of them answered more grammatically and more meaningfully. Another example in the same test, when asked: *Rainforests are essential and should be protected. Do you agree with this statement? Why?* Most answers were convincing, had good points of view, and could justify their answers logically with fewer grammar errors.

In DRTA used in the present study, the students used the language and interacted with their peers and their researcher/teacher. When they made predictions, confirmed/refuted, and justified them, they had better opportunities of using the language. The students interacted with their researcher/teacher, and they were able to justify their ideas and link their opinions back to the reading texts. They felt that they could learn the target language outside the classroom. During the lessons, the activities of DRTA were full of communicative tasks, for example, in the reading comprehension post-test: *How can you differentiate between rainforests and other ordinary forests?* Another example in worksheet 8*: Read the leaflet well and write a short paragraph comparing and contrasting the Bristlecone Pines and Wollemi Pines.* Their answers were more correlative and more coherent. This provided students with new ideas, concepts, thinking styles, and opinions. The researcher/ teacher learned about his students through listening to their ideas, values, beliefs, background knowledge, and reasoning.

27. Summary and Conclusions

This study is a link in a chain after Neal (1988), Mhaidat (2003), El-Koumy (2006), Al-Odwan (2012) and Megawati (2019) studies, to explore the effect of DRTA on students' reading comprehension. Based on the findings, the study concluded that using DRTA is an effective learning strategy for improving students' comprehension.

The study emphasized using DRTA to increase comprehension and promote lower and higher-order thinking levels. The researchers indicated a positive attitude towards this learning strategy from students. DRTA was an effective strategy that helped students in receptive and productive skills. Thus, teaching by DRTA required an effort from the teacher to prepare the lesson to activate students' prior knowledge and train them on DRTA. In addition, group and peer discussions form a challenge in classroom management because they consume time.

DRTA combines four techniques which are: *predicting, reading, confirming/refuting, and justifying*, - strategies themselves used to enhance reading comprehension. . Each technique covers one aspect of reading comprehension. DRTA puts all of them in a systematic, well-organized, and simple module that can be applied. The use of DRTA boosts, enhances, and fosters comprehension in all aspects. This was measured throughout the instructional program, through the attitudinal scale and the reading comprehension test.

Furthermore, using DRTA fostered students' critical thinking because they were rich with an essential role in promoting inquiry, encouraging students to make predictions, and organizing ideas that support value judgment and decision-making skills. Furthermore, using DRTA enables Jordanian teachers to effectively teach reading comprehension and fill the gap of any shortage in such means; designing interactive materials based on DRTA will transform learners from dependent into independent readers.

Similar to previous research, the current study supported using DRTA through enhancing students' reading comprehension as a successful learning strategy that could improve students' reading comprehension and critical thinking skills and create a more authentic learning environment in the classroom. In addition, using DRTA improved students' reading comprehension because these activities were rich with more communicative tasks and consequently provided students with new concepts, ideas, suggestions, styles of thinking, and opinions.

28. Pedagogical Implications

Specific pedagogical implications may be presented in light of the current study's findings. EFL teachers

- consider DRTA for their students' analytical reading skills. To this end, comprehension and critical reading skills at different levels will be increased.
- use the practical guidelines in teaching reading comprehension tasks, considering that reading comprehension requires the acquisition of several skills.
- design interactive materials based on DRTA, transform learners from dependent into independent readers.
- benefit from students' previous knowledge and perceptions about reading texts in teaching different texts.
- apply DRTA to different learning stages with different processing that suits each stage.
- use DRTA in developing comprehension of different types of texts: narrative, scientific, historical, and geographical.
- use DRTA in developing reading comprehension skills for students with learning difficulties in the primary stages.

29. Recommendations

According to the present study's findings, the following recommendations are presented to EFL teachers, researchers, and the Ministry of Education.

29. 1. Recommendations for EFL Teachers

It is recommended that EFL teachers:

- consider DRTA while designing their instruction; they should teach the techniques of DRTA (*predicting, reading, confirming/refuting, justifying*) to their students.
- utilize this strategy and its techniques for enhancing students' reading comprehension. DRTA is one of the active

learning strategies which enables students to involve in the teaching-learning process, depending on self-learning in gaining knowledge.

- use DRTA that emphasizes developing students' thinking and working cooperatively. The whole class might be interesting when using varied reading texts through DRTA lessons. Furthermore, DRTA could be used in all types of text structures (*expository, literary*, etc.).

29. 2. Recommendations for the Ministry of Education

It is recommended that the Ministry of Education:

- introduce a variety of teaching and learning activities based on DRTA focusing on critical thinking skills, reading comprehension through students' textbooks, teachers' guide
- hold training courses for in-service EFL teachers through which they are provided with teaching comprehension strategies, teaching comprehension models, and the skills these models improve to be incorporated into their practices and free teachers from the routine of conventional teaching methods and increase their creativity.
- prepare and equip pre-service teachers and provide them with models of teaching comprehension and their strategies through preparing training programs and courses relevant to the subject.

29. 3. Recommendations for Future Research

It is recommended that researchers:

- carry out further investigation of DRTA through cooperative learning at different EFL classes and different language skills in the Arab World.
- carry out further studies on the effect of the other thinking strategies on English reading comprehension. Results of all Jordanian studies concerning the same topic should be published and forwarded to all schools for generalization, feedback, and benefits.
- carry out other studies at other schools in different parts of Jordan, either from the public or private schools, to generalize the results of such studies.
- explore the effectiveness of using DRTA in reducing reading anxiety learners in schools.
- study the effectiveness of using DRTA in developing motivation towards English reading among students.
- conduct other studies on the effect of the Directed Listening Thinking Activity (the DLTA) strategy on students' listening comprehension at different stages in Jordan.

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