

The Effect of Reciprocal Teaching on Developing the Reading Comprehension and Reading Strategies of Eleventh Grade EFL Students

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Abstract

Objectives: Reading is a critical skill that English language learners should learn effectively. The present study investigated the effect of Reciprocal Teaching (RT) method on developing English language learners reading comprehension skills and reading strategies.

Methods: The participants in this study were 165 11th grade female students, distributed into two groups: (Experimental = 84 students) and (Control = 81 students). Four instruments were used to collect the data: a pre/post-test in reading comprehension, five unit tests, a questionnaire and teacher's observation. Data collected analyzed quantitatively and qualitatively. Quantitatively, the independent sample T test was used to compare the means of the experimental and control groups in the pre/post-test and the unit tests. The η^2 - Eta square was applied to the unit tests' results to examine the effect size of using RT. Descriptive statistical analysis was used to calculate the means, standard deviations and percentages of eighteen strategic reading practices. Qualitative data was analysed used the Thematic analysis qualitative method.

Results: Data analysis showed that the experimental group outperformed the control group in the pre-post-test, unit tests and use of RT reading strategies. However, despite the fact that the experimental group outperformed its counterparts in the control group in the posttests, the calculation of their test results reveals that their performance wasn't great ($M=11.42$).

Conclusions: Recommendations and implications of using RT method in teaching reading comprehension were advanced and discussed.

Keywords: Reciprocal teaching, reading comprehension, reading in a foreign / second language, reading strategies.

أثر استخدام التعليم التبادلي على الاستيعاب القرائي لطلبة اللغة الانجليزية وتنمية استراتيجيات القراءة

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ملخص

الأهداف: القراءة مهارة مهمة جداً " يجب على متعلمي اللغة الإنجليزية إتقانها بفعالية. الدراسة الحالية بحثت تأثير استخدام التعليم التبادلي على تحسين الاستيعاب القرائي وتنمية استراتيجيات القراءة .

المنهجية: شارك في الدراسة (165) طالبة تم تقسيمهم الى مجموعتين: مجموعة تجريبية (84) طالبة ومجموعة ضابطة (81) طالبة. لجمع بيانات الدراسة تم استخدام امتحان قبلي وبعدي، خمس امتحانات وحدات، استبانة وملاحظات المعلمة. تم تحليل البيانات نوعياً "وكمياً". في التحليل الكمي استخدم الباحثان T-test و Eta Square كميًا تم تحليل البيانات باستخدام طريقة Thematic Analysis .

النتائج: أظهر تحليل البيانات ان المجموعة التجريبية كان أدائها أفضل من المجموعة الضابطة في جميع الامتحانات واستخدام استراتيجيات التعليم التبادلي. ومع ذلك ، على الرغم من حقيقة أن المجموعة التجريبية تفوقت على نظيراتها في المجموعة الضابطة في الاختبارات اللاحقة ، فإن حساب نتائج الاختبار الخاصة بهم يكشف أن أدائهم لم يكن رائعاً ($M=11.42$).
الخلاصة: قدم الباحثان مناقشة توصيات لاستخدام التعليم التبادلي في تدريس القراءة.
الكلمات الدالة: التعليم التبادلي، فهم المقروء، القراءة في لغة اجنبية، استراتيجيات القراءة.



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Introduction

How do you motivate EFL learners who dislike reading even in their native language? Many Palestinian EFL teachers struggle with this challenge on a daily basis. The reasons behind the lack of interest to read are beyond the scope of this paper. Regardless of those reasons, many attempts have been made to make students read extensively (for pleasure) in particular. Training students to read using effective reading methods might assist them in becoming interested in reading. One of the effective teaching methods, as shown in the literature review section in this paper, is Reciprocal Teaching (RT).

RT depicts the classroom as a context for teaching reading comprehension based on strategy – teaching. A technique that puts great emphasis on the process of reading rather than the reading as a final product (Komariah, Ramadhona, & Silviyanti, 2015). Palincsar & Brown (1984) suggested teaching four strategies of reading: predicting, questioning, clarifying and summarizing. They have asserted that these specific strategies were purposely selected among the wide variety of strategies because they function on two folds: fostering understanding and monitoring understanding. Students had better understand the text via negotiating the meaning. Additionally, they can monitor their level of understanding after a while of a systematic practice.

Practicing reading in an EFL context might ameliorate teaching reading and motivating students to read in the Palestinian context where the current study was conducted. Such a method to teaching reading might be a suitable method that supports struggling Palestinian EFL readers. The RT metacognitive strategies (predicting, questioning, clarifying and summarizing) were explicitly taught to the participants in the study in an effort to investigate the effect of RT use on their achievement in reading comprehension. Thus, the main issues (variables) that the current study is focusing on are reading comprehension, reading practices and reading strategies development. For a full definition of the operational terms in the current study please see Appendix A.

Statement of the Problem

There is a real need for teaching the reading strategies that facilitate reading (Pressley & Harris, 2008). When students are taught reading strategies, they are prepared with thinking tools which help them regulate their thinking and get involved in the process of reading as active agents. However, some studies recommended teaching the metacognitive strategies at the school level because they found that students lack awareness of these reading strategies (Aziz, 2005; Jom'a, 2013). From a practical point of view, the researchers experience in teaching EFL in the high school context revealed that a large number of students face challenges in reading comprehension although they try hard to understand. Failing to comprehend a text affects their achievement and their attitudes towards learning English. Within their attempts to understand the reading texts, many students resort to the “word to word” translation or asking the teacher to explain rather than trying to make connections to their own experience or trying to test the strategies they already have. This humble experience in teaching reading aroused the researchers interest to practically teach some metacognitive reading strategies represented in the Reciprocal Teaching method to help students facilitate their understanding of the reading passages.

Research Questions:

The present study aimed at answering the following research questions:

1. What is the effect of using Reciprocal Teaching strategies on EFL learners' reading comprehension ability?
2. What is the effect of using Reciprocal Teaching on reading comprehension progression over the period of intervention?
3. What strategic reading practices that EFL learners developed because of learning reading comprehension through the Reciprocal Reading method?

Literature Review:

According to research conducted on reading skills, the reasons behind students' reading deficiency, inability to construct meaning from texts include (a) the absence of age –appropriate, interesting texts; (b) the quality of instruction that focuses on teaching the word- level; (c) frustration that rises from unrewarded effort, (d) difficulties at the phonological level represented in analysing and synthesizing speech sounds, (e) concentrating on the coding task with all

efforts, leaving little resources for making meaning, (f) failure in decoding skills at early age results in negative attitude towards reading which inhibits growth in vocabulary identification, and (g) lack of self-efficacy specially in mixed classes (Brown, 2015; Bruce & Robinson, 2001; Le Fevre, Moore & Wilkinson, 2003; Hartman, 2001, and Reutzel & Hollingsworth, 1988).

To assist readers in developing effective reading skills and eradicate the factors behind reading deficiency researchers investigated the use of RT in different contexts. They investigated RT effectiveness on English native speakers and English Language Learners (ELLs) and special education students. However, a very limited number of studies were conducted in non-native contexts that investigated the strategies effectiveness in teaching English reading comprehension to foreign language learners. For instance, a positive relationship has been found between RT approach in raising learners' cognitive and metacognitive awareness and improving their reading comprehension using RT strategies (Dabarera, Renandya & Zhang, 2014). RT strategy instruction also found to create dynamic classrooms. Learners became more active, cooperative and gained higher self-efficacy because of their roles in the groups. Furthermore, students were able to apply the four RT strategies successfully and gain strategic awareness (Komariah et al 2015).

In addition, using Reciprocal Teaching strategies with semantic mapping strategies improved learners reading comprehension and other reading sub skills (Al Debes, 2005). They were also found to enhance learners' critical thinking skills. They improved learners' literal, inferential and critical reading skills (Al-Qatawneh, 2007). Further, RT strategies assisted EFL learners in relating their previous experiences with the new ones and build schemas that enables better retention of the reading (Hasan, 2006).

Further, researchers investigated RT strategies use as a remedial intervention with underachievers, at risk learners and learners with a reading disability. Using RT with such learners found to improve their self-efficacy and engagement in the learning process due to the use of the thinking aloud strategy during reading (McHugh, 2016). A sufficient duration of RT intervention and guiding the reading groups to share their monitoring of comprehension are crucial conditions in implementing RT with struggling readers according to Raslie, Mikeng & Ting (2015). Further, Englert & Mariage (1991), Klingner & Vaughn (1996) and Mothus & Lapadat (2006) found that the use of RT interventions with learners with reading disabilities improved learners reading abilities.

Aaron (1997) recommended using RT as a reading model with struggling readers for improving reading comprehension as a result of a meta-analysis he completed. Among the findings of some studies that he reviewed, some showed that poor readers who were taught metacognitive strategies have surpassed their normal mates who received traditional teaching, in the test performance. According to this finding, it is recommended to teach comprehension in regular classrooms instead of special need rooms. This being under the framework of RT, provided that the teachers of these classes receive "special training in remedial reading methods that are designed to improve skills such as phoneme awareness, decoding, vocabulary knowledge, and comprehension strategies" (Aaron, 1997, P. 489). Mothus & Lapadat (2006) made a similar suggestion. The researchers suggested that strategy-teaching approach is the best alternative to all learning assistance approaches, since it hits cognitive and metacognitive elements in a socially supportive setting. These strategies help learners plan, make decisions, select and monitor their use.

Use of RT strategies were also found to improve the reading comprehension of learners who are considered adequate decoders with poor comprehension skills (Alfassi, 1998). It has also been found that RT had the ability to enhance the students' ability to predict, clarify, summarize and raise questions about the text. In addition, it had positive impact on students' enthusiasm for reading (Rosalia, 2015). The difference between enthusiastic good readers and those with poor reading skills has nothing to do with their memory abilities. Good readers activate their cognitive/metacognitive skills to make connections between what they read and their prior knowledge. While, poor readers are unaware of the appropriate strategies to monitor and check their comprehension (Le Fevre et.al, 2003).

The current study was designed in an effort to assist Palestinian students becoming good readers by becoming aware of effective reading strategies such as the RT strategies. One of the authors observed freshmen students at the university have very poor reading skills. These students are average and above average students. In cooperation with a high school

teacher at the Ministry of Education they conducted this study. What is unique about the current study is that it is conducted in a context that cooperative learning is not practiced and resented and students used to teacher-centered teaching approaches. Classroom dynamics do not encourage students' engagement and cooperation with one another. The use of RT, which largely depends on student engagement and cooperation in the Palestinian context, is a challenge for both teachers and students. Thus, the current study by using RT strategies in such a context is aiming to find out its effect in improving Palestinian learners reading comprehension skills, use of cognitive and metacognitive strategies, development of new strategic reading practices, engagement in the learning process and cooperating with each other.

Methodology

Participants

The participants in the study were 165 grade 11 students. These were distributed to four classes. One of the researchers taught all classes. Two of the classes were randomly chosen to function as an experimental group (classes B+ D) and the other two classes (A & D) served as the control group. The experimental group consisted of (84) students in two classes, while the control group's students were (81). The experimental group was taught reading comprehension using RT method in heterogeneous group context. Whereas, the control group was taught using the traditional method of teaching reading comprehension. The participants, according to their teachers' observation, were encountering difficulties in meeting the grade level's expectations in English and depending to a high degree on the teacher's explanations of the reading texts. At the same time, they were struggling to develop their performance and become better language learners. Generating meaning from higher-level texts was the most challenging for the majority.

Instruments of the study

The researchers used three instruments in conducting this study. The first one is the Pre-test/Post Comprehension Test: The same standard test was administered for the experimental and control groups prior and posts the reading intervention. The test was adapted from Test of English as a Foreign Language (TOEFL) Tests for juniors. TOEFL tests are standard tests, well-known about their validity and reliability. They are also known with their content and construct related evidences. The test included three parts of reading texts appeared according to their complexity level. The test starts with a "festival announcement" passage followed by four questions. The second passage is a short dialogic story followed by seven questions and the last part a short historical narration followed by eight questions. All the questions were multiple choice accompanied with an answer sheet. The total number of the questions was twenty and scored out of twenty points. Analysing the cognitive levels of the test items showed that ten of the questions belong to the high order-thinking skills (mainly reasoning) and the other ten represented low-order thinking skills (mainly comprehension). Students of both groups took the test again after three months when the period of teaching had been completed.

The second instrument was the Units Tests. The researchers based on the five units taught during the study developed these tests. Students used to get ready for a test every two weeks. Every test was marked out of thirty points. Each one of the five tests included a reading expository text followed by some questions. The questions started with information questions, followed by information completion question, true/false questions, reference questions and meaning -generating questions.

The third instrument was the Students' Questionnaire. By the end of the intervention period, the experimental group was called to complete a questionnaire of two- parts. This instrument aimed at tracing the frequency of reading practices used in during reading. A closed- responses' questionnaire was found the best tool for exploring students' opinions since their verbal abilities were limited and it was found difficult to ask them to report their reading practices through open questions. Therefore, closed responses questionnaire was found the best solution to overcome any fluency obstacles. Moreover, the questionnaire revealed students' knowledge about themselves as readers and their knowledge about the reading practices they used. The first part of the questionnaire (items 1-18) was adapted from Mokhtari & Reichard (2002) who has developed their instrument of Metacognitive Awareness of Reading Strategies Inventory (MARS) as a self-report instrument. It focuses on assessing metacognitive awareness and perceived strategy use of school students from 6th to 12th

grades, reading school materials and subjects. MARSİ is made of thirty items that groups reading practices into three subcategories: global reading strategies, problem- solving strategies and support reading strategies.

Instruments' Validity and Reliability

The Pre/post-test: The main instrument in this study was a multiple choice reading comprehension test adapted from TOEFL tests for juniors. TOEFL tests are international standardized tests known about their validity. However, different steps were taken to confirm validity. AMIDEAST office in Ramallah had been consulted on the tests' content appropriateness and relevance to the target age group. Moreover, the test was also reviewed by the researcher's supervisor and English teachers' committee at the school to prove its face and content validity. The internal consistency of the test items was also confirmed through using the SPSS one factor- analysis to check the correlation between the test items. Previously, the test items were grouped according to their cognitive levels. Ten of the questions were found to measure low- order reading skills. For instance, items that focus on skills like knowledge, comprehension and recalling. The other ten items were analysed as high- order reading skills. These were questions that required reasoning, analysis, synthesizing and evaluating skills.

To insure the validity and reliability of the units' comprehension tests, they were reviewed by the General Directorate for Assessment and Examinations in the Palestinian Ministry of Education. Moreover, English language committee members at the school and two of the school English supervisors reviewed the tests' content and relevancy to the curriculum topics. All tests were revised based on the recommendations and suggestions received. The one factor analysis of the five test results showed that the tests items were reliable and consistent since the one –factor analysis value for the five tests was (96%). This is considered a high reliability percentage in research. In order to confirm the questionnaire's validity, three university professors reviewed the questionnaire. Based on their recommendations, some changes were made in the language, order of items, number and domain of items. Items that were considered complex, duplicating other items or irrelevant to RT method were excluded or replaced based on the supervisor's recommendations. Language was simplified to suite the students' proficiency level. Clarity and punctuation marks were also noted.

Research Design and Data Analysis:

The current research study adopted the quantitative research methodology to analyze the pre and post-test, the five unit tests and the data collected through the questionnaire. First, the independent sample T test was used to compare the means of the experimental and control groups in the pre/post-test. The means of the two groups in both tests were compared to find out any difference in their reading performances. Moreover, to elaborate on the first research question, the test's questions were categorised into two groups after being analysed based on their cognitive levels. Questions that included recall or understanding were labelled as low- order cognitive skills. Questions that involved problem solving, analysing and reasoning were labelled as high order thinking skills. Accordingly, the performance of the experimental group's subjects was compared in these two specific domains. In addition, the η^2 - Eta square was applied to the units tests' results to examine the effect size of using RT. In fact, this statistical analysis was used to elaborate on the effect of using RT as a method. It aimed at finding whether the method's impact on students was small, medium or large. Second, the independent sample T test was also used to answer the second question of the study. Five unit tests were analysed in means and frequencies to reveal the change in the two groups' achievement over the period of the study. Descriptive statistical analysis was performed to calculate the means, standard deviations and percentages of eighteen strategic reading strategies.

Study Procedures

The first step of this study was getting the approval of Al-Bireh Secondary School principal and the Directorate of Education in Ramallah to conduct the study. The school helped the researcher in distributing the students of 11th grade to four classes and authorised the teacher to teach two of them as an experimental group and two as control. The study completion and data collection were possible through the following procedures. First, a random class was chosen for piloting teaching RT method at the beginning of the year. Second, all 11th grader students in the literary stream took the pre-test in reading comprehension. Third, all the students in the experimental group were trained on reading

comprehension using the Reciprocal Teaching method for a two-week period. Fourth, the students in the experimental group were assigned to heterogeneous groups of four according to their results in the diagnostic reading comprehension test. After that, students in each group exchanged roles to be able to practice the four RT strategies in a cooperative environment. The teacher administered a unit reading comprehension test to both groups at the end of each unit taught. At the end of the study, the teacher administered the post-test on reading comprehension to both groups. In addition, the experimental group was asked to reflect on their learning experiences using the RT method in reading by completing the questionnaire.

Results:

The Effect of Reciprocal Teaching on Reading Achievement

The study aimed at revealing the effectiveness of using RT on reading comprehension abilities and its impact on students' achievement. For that purpose, two types of tests were conducted. A pre/post-test and five unit tests. The pre/post-tests have mainly aimed to reveal the difference in achievement between the experimental and control groups prior and after the intervention. The five school tests tracked the progress in the reading abilities along the period of intervention. For comparison between groups, this current study used two independent groups drawn from the same population. The reciprocal group consisted of 84 students and the Non-reciprocal was 81.

To answer the first question, the independent sample T test was applied to the results of the pre and post-tests for both groups. The means and standard deviations of the control group and the experimental group before and after the intervention were compared.

Table (4-1): Results of the Independent Sample T- Test of the Experimental and Control Groups in the Pre-test and Post-test

| Group | | N | Mean | Std. Deviation | T | Sig. (2-tailed) | Eta Squared |
|-----------|-------|----|-------|----------------|------|-----------------|-------------|
| Pre-test | Exp. | 84 | 6.98 | 3.77 | 1.11 | 0.27 | 0.15 |
| | Cont. | 81 | 6.28 | 4.25 | | | |
| Post-test | Exp. | 84 | 11.42 | 5.28 | 2.97 | 0.00* | |
| | Cont. | 81 | 9.27 | 3.84 | | | |

* Statistically significant at the level of statistical significance ($\alpha \leq 0.05$)

Table (4-1) presents the results of the control and the experimental groups in the pre and post-tests. Comparing both groups' results in the pre-test shows that the means of the two groups' scores were very similar. The experimental group's average mean was (6.98), whereas the control group's mean was (6.28) before the RT instruction began. This comparison shows that there was no significant difference in the mean scores of the two groups prior the intervention. It also indicates that both groups were almost similar in their reading achievement before teaching began. Comparing the mean scores of the two groups in the post-test shows the experimental group mean was (11.42), while the control group' mean was (9.27) for the same test. Table (4-1) also shows that there was no difference in the two groups' performance in the pre-test. (Sig = 27%) in the pre-test indicates that the difference is insignificant at ($\alpha \leq 0.05$). However, significance level was (0.00) which is less than ($\alpha \leq 0.05$) in the post-test. The level of significance shows that there was a difference in performance for the benefit of the experimental group in the post-test.

Comparing the results at the one group -level shows that the mean average of both groups has increased from the pre-test to the post-test. The control group's average was (6.28) in the pre-test and rose to (9.27) in the post-test. Whereas, the experimental group's average mean was (6.98) in the pre-test and rose to (11.42) in the post-test. Yet, there is a significant difference for the benefit of the experimental group when comparing the two groups' means in the post-test. In other words, the experimental group who studied reading comprehension using reciprocal teaching strategies outperformed the

control group in the post-test. However, the statistics shows an advance of the control group reading achievement along the period of teaching. Furthermore, Table (4-1) shows the effect size of reciprocal teaching (RT) on the reading ability. This was calculated using Eta square statistics to the test results. The table shows η^2 Eta square value was (0.15). This percentage suggests that the effect size of RT on students' reading ability was big, since it is higher than the average (0.14). It should be noted that according to Cohen's rules of thumb (1988), the Eta square for the effect magnitude is considered small at (0.2), medium (0.13) and large at (0.26).

The previous findings clarified the overall achievement differences between the two groups. However, the research has investigated the effect of the RT at deeper level. Provided the claim that RT instruction enhances the cognitive/metacognitive abilities of the learners, the statistics were used to trace the method's impact on the cognitive growth of the subjects. It investigated the impact of RT on developing the different cognitive abilities of the experimental group learners. For that purpose, the same previous test items were classified into two cognitive levels. Ten out of the twenty multiple-choice questions represented high- order thinking skills. The other ten questions required low- level thinking abilities. Analysing the test items, higher level thinking skills that the test promoted were reasoning, inferring and problem- solving questions. Meanwhile, the low-order thinking skills were mainly recalling, knowledge and comprehension questions. To examine the difference in the experimental subjects' performance in the two cognitive levels, the score of every student in every question was recorded. This implies that every cognitive field is made of ten questions and marked out of ten points for every student. Results of the experimental group were compared in the pre and post-tests using the independent sample T- test and the Eta Square, as shown in the Table (4-2) below.

Table (4-2): Pre-test and Post-test Results in the Low and High -Order Cognitive Levels

| Comprehension Cognitive Level | | | N | Mean | Std. Deviation | T | Sig.(2-tailed) | Eta Squared |
|-------------------------------|----------------------------|------|----|------|----------------|-------|----------------|-------------|
| Exp. | Low-Order Thinking Skills | Pre | 84 | 4.9 | 0.25 | -2.91 | 0.00** | 0.12 |
| | | Post | 84 | 6.1 | 0.27 | | | |
| | High-Order Thinking Skills | Pre | 84 | 2.1 | 0.20 | -7.70 | 0.00** | 0.32 |
| | | Post | 84 | 5.3 | 0.31 | | | |

** Statistically significant at the level of statistical significance ($\alpha \leq 0.05$)

Table (4-2) shows the mean scores of the experimental group in the pre and post-tests in different cognitive domains. The independent sample T-test shows a significant difference between the mean scores of the high – order cognitive level and the low-order cognitive level in the pre and post-test. The low- order reading skills means was (6.1) in post-test, whereas it was (4.9) in the pre-test. That suggests a slight improvement of the students' low-order thinking skills such as recalling, comprehension and remembering levels. Regarding the performance at the higher- cognitive level, experimental group's means was (2.1) in the pre-test which is considered very weak performance. This have improved to (5.3) in the post-test which a very noticeable advance in the experimental group's performance. The result indicates a significant difference in the results of the experimental group in their pre and post-test. The difference was clear in the students' performance in the high cognitive level questions despite the slight difference in their performance at the low-order thinking level.

Comparing the performance of the subjects in the two cognitive levels, the means show that students performance have increased in both levels. Both means had a (sig .000) which are considered significant at ($\alpha \leq 0.05$). Yet, the differences in means indicate that students have advanced better in their performance in the high- order thinking skill than in their performance in the low order thinking skills.

To investigate the impact of RT on students' performance in both cognitive levels, Eta Square was performed; the difference between the two levels' means was calculated to check the effect size of the method in both levels. The results show the effect size of RT on the high -order thinking skills was greater than its effect size on the low-order cognitive

level. To elaborate, Eta Square for the low-cognitive level was (0.12) which less than (0.14). This is considered as a medium size effect of the method on the low-order thinking skills of the subjects. However, the size effect was great regarding the high-level skills like reasoning and problem-solving, since Eta Square was (0.32), which is much higher than (0.14). These results indicate that due to the extensive RT practice, students high thinking skills have developed higher than their low order cognitive skills. They also indicate that the same subjects have more applied the low order thinking skills to the test questions in the pre and post conditions. However, their high order thinking skills have grown much better in the post-test.

To conclude, the results show a significant difference in the performance of the reciprocal group in both cognitive levels. Yet, the same groups' performance has enhanced in the high order thinking skills more apparently than their performance in the low order thinking skills. These results were supported by the Eta Square statistics for calculating the method's effect magnitude. The size effect of Reciprocal Teaching was found higher in the high order thinking skills case. This implies a positive impact of the strategy on promoting the cognitive/metacognitive abilities of the experimental group.

Tracking the Progress in Achievement during the Reciprocal Intervention

To answer the second question of the study, the research tracked the performance of the experimental and the control groups along the period of the intervention. The study aimed at finding the difference between the experimental and control groups in their performance in reading comprehension through five unit tests. Those tests included the five most frequent prompts in the secondary stage tests and were scored out of thirty marks for each. After administering each test, scores of students in the two groups were recorded. By the end of the teaching period, mean scores and standard deviations of the five tests were analysed for the both groups. The analysed data appear in Table (4-3) below, show the mean scores, standard deviations and the independent T test values for the five tests of the experimental and control groups.

Table (4-3) The Experimental and the Control Groups' Means and Standard Deviations in the Five School Tests

| Group | | N | Mean | Std. Deviation | T | Sig. (2-tailed) |
|--------|-------|-------|-------|----------------|------|-----------------|
| Test 1 | Exp. | 83.00 | 13.43 | 7.54 | 1.69 | 0.09 |
| | Cont. | 80.00 | 11.44 | 7.51 | | |
| Test 2 | Exp. | 84.00 | 14.99 | 7.14 | 0.54 | 0.59 |
| | Cont. | 79.00 | 14.38 | 7.12 | | |
| Test 3 | Exp. | 81.00 | 18.35 | 7.37 | 1.43 | 0.15 |
| | Cont. | 79.00 | 16.66 | 7.54 | | |
| Test 4 | Exp. | 82.00 | 19.39 | 7.07 | 1.76 | 0.08 |
| | Cont. | 80.00 | 17.40 | 7.31 | | |
| Test 5 | Exp. | 83.00 | 20.73 | 6.74 | 2.36 | 0.02* |
| | Cont. | 80.00 | 18.09 | 7.57 | | |

* Statistically significant at the level of statistical significance ($\alpha \leq 0.05$)

** Maximum Test Grade = 30 Pts, Minimum Grade = 15 Pts.

The table shows the Independent Samples T- Test results for the two groups in five unit tests. The independent sample T- test shows that there was a difference in the mean scores of the two groups in favour of the experimental in the fifth test. The mean score of the experimental group in this test was (20.73), whereas the mean score of the control was (18.09). The Significance level of the first, second, third and fourth tests of the two groups as (0.09 ,0.59 ,0.15 ,0.08), which is higher than (0.05) for both groups. This indicates no significant differences in the two groups reading achievement in the first four school tests. Whereas, the Sig value of the fifth test = (0.02) which is apparently significant at $\alpha \leq 0.05$ and reveals

a significant difference between the two groups for the favour of the experimental. In other words, the results of both groups in school comprehension tests had no significant difference until the fifth and final test. This suggests that the students of the experimental group have outperformed the control group in the fifth comprehension test. Despite the fact that difference between the two groups only appeared in test five, the achievement scores of the experimental group gradually rose from the first to the final test. However, a look at the mean scores of the experimental group shows that their achievement in the tests was gradually rising along the five tests. The means scores of the tests appeared as (13.43, 14.99, 18.35, 19.39 and 20.73) respectively. These means show a continuous rise in the experimental group achievement from one test to the other. Similarly, the control group's means were (11.44, 14.38, 16.66, 17.40 and 18.09) respectively. This finding indicates that the control group subjects -who were learning using the conventional method – were also progressing in their reading comprehension performance along the intervention period. Figure one below shows the different performances of the experimental and control groups in the five unit tests.

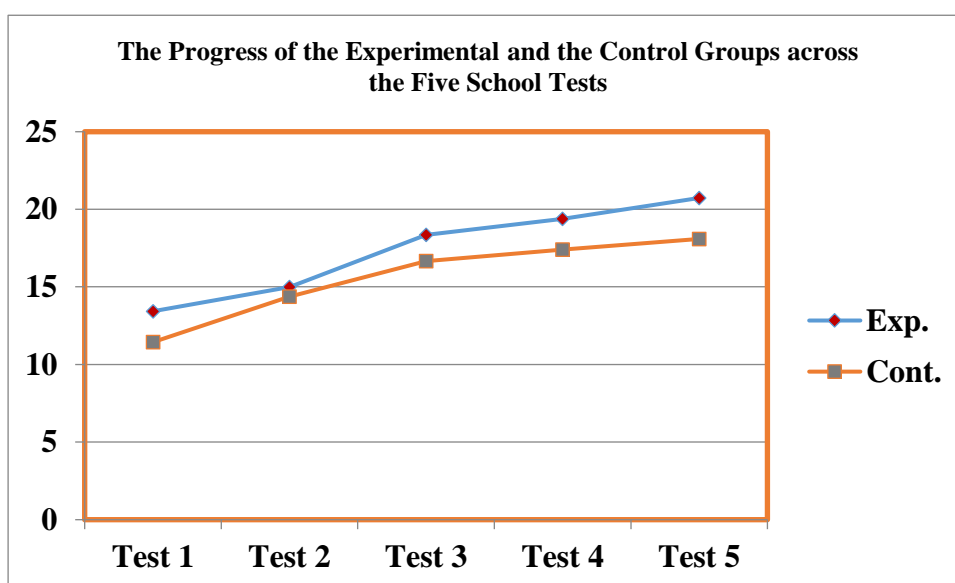


Figure 1: The Results of the Experimental and the Control Groups in the Unit Tests

Figure (1) shows a comparison of the two groups' performance in each test. As clarified, the experimental group tests' means were higher than the means of the experimental from the first to the fifth test. The means indicate that the reciprocal subjects performed better in the school tests than their mates in the non- reciprocal group. The figure shows that the experimental group's means were higher than the control group means from the first school tests and continued higher until the end of the intervention. When comparing any two means in any of the five tests, the experimental group's mean was higher, but insignificant in the first four tests. These means clearly show that students who studied reading comprehension through the RT reading strategies have made progressive improvement in their mean scores in the successive reading tests at school. In conclusion, the statistics clarifies that comparing the mean scores of the experimental and control groups in five unit tests was for the favour in the experimental. The difference was not significant in the first four tests and did not appear until the fifth. That suggests that the RT effect on the reading ability progress did not make a significant difference until late stage of the instruction period. Moreover, it suggests that the experimental group reading ability has grown, yet at slow pace.

The Impact of Reciprocal Teaching on Students' Strategy Use

Concerning the third question of the study regarding the impact of RT on students' strategy use, the questionnaire was statistically analysed to provide a clarification of the reading practices that the experimental group students implemented while reading.

The first part of the questionnaire was under the title of “Practices of Reading” to refer to the reading strategies that the experimental group used while reading. The part was adapted from “MARSI” questionnaire by Mokhtari & Reichard (2002) which was designed to assess reading strategic awareness for academic purposes, but items were chosen to correspond to the closet practices of RT. The questionnaire included three subscales of strategies that students resort to while reading to foster their understanding. The first part covered the Global Strategies, followed by Support Reading Strategies and then the Problem Solving Strategies. In order to answer the question, descriptive analysis was performed to calculate the means, standard deviations and percentages of the items.

Table (4-4): Descriptive Statistics of Eighteen Reading Practices

| No | Item | Mean | Std. Deviation | Percentage |
|-----------------------------------|--|------|----------------|------------|
| Global Reading Practices | | | | |
| 1 | I read the heading and sub-headings of the passage first. | 4.17 | 0.73 | %83.33 |
| 2 | I refer to the diagrams / illustrations when they are available to help me understand the topic. | 3.92 | 0.7 | %78.33 |
| 3 | I try to make connection between the text that I am reading and previous knowledge / experience. | 3.83 | 0.73 | %76.67 |
| 4 | Before reading, I ask myself what I already know about the topic and predict what will come next in the passage. | 3.9 | 0.67 | %78.10 |
| 5 | I skim the text first to find out its type and the way it is organized. | 3.65 | 0.9 | %73.10 |
| 6 | I try to figure out the meaning of new words or phrases from the context. | 3.88 | 0.77 | %77.62 |
| Support Reading Practices | | | | |
| 7 | I look up unknown words in the dictionary. | 3.61 | 0.88 | %72.14 |
| 8 | I underline or circle information in the text to help me remember it. | 3.57 | 0.75 | %71.43 |
| 9 | I discuss what I read with the group to check my understanding | 3.63 | 0.98 | %72.62 |
| 10 | I ask myself questions about the text during reading. | 3.18 | 0.76 | %63.57 |
| 11 | I summarize what I read to reflect on important information in the text. | 3.04 | 1.15 | %60.71 |
| 12 | I go back and forth in the text to find relationships among ideas in it. | 3.23 | 0.88 | %64.52 |
| Problem- Solving Practices | | | | |
| 13 | When I do not understand, I keep on reading hoping for clarification further on. | 3.58 | 0.76 | %71.67 |
| 14 | I stop from time to time and think about what I am reading. | 3.77 | 0.81 | %75.48 |
| 15 | I skip words or parts I do not understand. | 3.19 | 1.06 | %63.81 |
| 16 | I give up and stop reading when I do not understand. | 2.15 | 1.05 | %43.10 |
| 17 | When text becomes difficult, I reread to increase my understanding. | 3.13 | 1.03 | %62.62 |
| 18 | I try to guess the meaning of unknown words or phrases when reading. | 3.39 | 1.05 | %67.86 |

Table (4-4) shows the means, standard deviations and frequencies of three categories of reading practices. It is clear that the first subcategory of the strategies was dominant in the students' practices while reading. The percentages of using them were between 83.33% and 73.10%, and both are considered high percentages. Initially, it seems that the majority of students attended to headings and titles when reading. Among the six used strategies, the highest mean (4.17) went to item (No.1) "I read the heading and sub-headings of the passage first". Further, responses showed that pictures and illustrations combined to the reading were also a source of help. That is clear from the high mean of strategy (No.2) ($M= 3.92$) "I refer to the diagrams / illustrations when they are available to help me understand the topic". Self-questioning/checking was also a present during reading, as strategy No.4 came third in its mean ($M=3.9$) "Before reading, I ask myself what I already know about the topic and predict what will come next in the passage". Strategy (No.6) mean was (3.88) "I try to figure out the meaning of new words or phrases from the context" and strategy No.3 ($M=3.83$) "I try to make connection between the text that I am reading and previous knowledge / experience". However, the least attention was paid to structure and organisation of the text as a reading technique. Therefore, responses to item (No.5) calculated the lowest mean (3.65) among the six global strategies used, "I skim the text first to find out its type and the way it is organized". To sum, the means of the responses to the six items were high which suggests they were commonly used during reading.

In addition, a look at the second subscale shows the percentages and mean scores of responses on using the Support Reading Strategies. Item (No.9) "I discuss what I read with the group to check my understanding" got the highest mean (3.63) among the six supportive strategies that students adopt. The mean of this item suggests that dialogue and debates on the text were found useful to arrive to common understanding of the text, give meaning to reading and confirm understanding. Strategy No.7 ($M=3.61$) "I look up unknown words in the dictionary" and No.8 ($M= 3.57$) "I underline or circle information in the text to help me remember it" also appeared as high frequently used while reading. However, item No.10 "I ask myself questions about the text during reading" was ($M=3.18$). Still, it indicates that nearly half of students have developed self- questioning strategy of RT while reading. Strategy (No.11) "I summarize what I read to reflect on important information in the text" came with the lowest mean (3.04), among the support reading strategies that students use to overcome their reading problems. Compared to other responses, it could be considered a mediocre use of the strategy. However, according to the used scale, it still belongs to the high frequently used strategies.

The third part of the table covered the strategies that students utilized as problem- solving techniques. Foremost, the highest mean ($M= 3.77$) of item (No.14) "I stop from time to time and think about what I'm reading" suggests that thinking about reading was the most frequently followed by students to check whether the text was meaningful or not. Then, the mean responses on item No.13 ($M=3.58$) "When I don't understand, I keep on reading hoping for clarification further on", show that students continued reading and didn't give up when they didn't understand a certain part, hoping for understanding as they move on in the text. Text clues and previous word knowledge were also frequently used to solve the reading problems. This idea was clear through the means of item No 18 ($M= 3.39$) "I try to guess the meaning of unknown words or phrases when reading". The lowest mean of responses (2.15) was on item (No. 16), "I give up and stop reading when I don't understand". The item's mean indicates that low number of students quit reading when they did not understand and continued the task. However, not a high percentage of students did this because items (No.15) "I skip words or parts I don't understand" and (No.17) "When text becomes difficult, I reread to increase my understanding" were reported of medium frequency. The two items' means were ($M=3.19$) and ($M=3.13$) respectively. These means show that these two strategies were not among the high frequently used. However, they mean that almost half of the students did not get stuck when they did not figure the meaning of a word and read again to foster understanding.

In general, comparing the total score of each subcategory shows that the global reading strategies appeared first as the most frequent skills used, followed by support reading strategies and the problem- solving strategies. The comparison between the three subscales overall use appears in the following table:

Table (4-5): Means, Standard Deviations and Percentages of Reading Strategies' Total Score

| Strategy -Subscale | Mean | Std. Deviation | Percentage | Degree |
|---------------------------------------|------|----------------|------------|--------|
| Global reading strategies | 3.89 | 0.75 | 77.86% | High |
| Support reading strategies | 3.38 | 0.9 | 67.50% | Medium |
| Problem- solving strategies | 3.2 | 0.96 | 64.09% | Medium |
| Total Score of "My Reading Practices" | 3.49 | 0.87 | 70% | High |

Table (4-5) shows a comparison of the means of each subcategory of the strategies. The three are compared in their total means, percentage and overall degree of use according to Likert scale. Global reading strategies were the most used by students with (M=3.89). The percentage of using these strategies was (77.86%). That indicates students resorted to these general, low-level cognitive or surface skills with a high degree of frequency. Support reading strategies (M=3.38) fell within a moderate level of frequency. This means that learners "sometimes" made use of these strategies. The overall percentage of using them was (67.50%), which is considered a medium use degree. On the contrary, problem- solving strategies came last (M=3.2) with a (64.09%) percentage. This pointed to a moderate use or frequency of these strategies; however, less than the supportive strategies. It is worth clarifying that classifying the degree into medium and high is based on percentages of strategy use. 70% and above is considered high and below 70% is considered Medium.

To conclude, the overall mean of "The Reading Practices" part was (M= 3.49) which falls within high degree of frequency. These statistics indicate that students in general resorted to reading strategies to a high degree. However, the highest percentage of their reading strategies went to the global strategies, followed by support reading strategies and finally to the problem solving. The subscale means and percentages showed that in spite of using reading strategies while reading English texts, their use was decreasing as the subscale was advancing.

Discussion

Effect of Reciprocal Teaching Strategies on Learners Reading Comprehension

The first research question of this study investigated the impact of RT on the students' reading comprehension ability. The findings in the results section provided a statistical evidence (Table 4-1) of the positive impact of the method on the students' reading ability. The results from the independent sample T-test analysis revealed that the experimental group performed significantly higher than the control group in the posttest. This statistical evidence indicated that students who received the RT training achieved higher percentage grades than those who did not receive any strategic training. The positive impact of the RT training was also supported by the data from the pretest. The results analysis showed that the two groups were almost equivalent in their pretest results. This suggests that the two groups were almost equal in their reading skills prior to the intervention. In general, these findings are in line with Palincsar and Brown's (1984), who trained students to apply the four metacognitive strategies of RT to the reading texts. Their study found RT has enhanced the standardized reading of the students who were adequate decoders, but poor at comprehension. Further, the finding of the present study is consistent with the findings of Armbrister (2010), Dabarera, Renandya, & Zhang, (2014) and Hasan (2006) that applying RT to the non-native contexts enhances students' awareness of the metacognitive strategies and improves their performance in reading. These results are also in the same direction of Brow (2015) in confirming the utility of strategy teaching in improving the vocabulary attainment and meaning inference abilities of the learners.

Although the results of the current study provided evidence that the experimental group surpassed their mates in the control in the posttests, the calculation of their test results show that their performance wasn't high (M=11.42). Knowing that the highest mark of the test was twenty, suggests two points: first, the students were poor comprehenders who possess little reading strategies. Second, students became able to overcome their reading deficits due to their use of the RT strategies. As a result, they were able to make the difference in their means in the posttest. Reciprocal Teaching as a remedial method was used with learners who were considered as low- achievers or low- comprehenders by Alfassi (1998)

and McHugh (2016). Both studies reported similar results in the utility of RT in assisting less proficient student to read with meaning and in increasing the classroom interaction. Moreover, Aaron (1997) reported some studies in which poor readers who were taught metacognitive strategies have surpassed their normal mates who received traditional teaching.

The results of the first question also indicated a large effect size of the RT strategies on the experimental group. The magnitude of the mean differences of the two groups was big (eta squared 0.15) and suggested a significant impact of the method on the reciprocal subjects' reading abilities. A further analysis of the performance of the reciprocal group on the different cognitive levels revealed an upturn in their use of the high- order thinking skills in the posttest. The researchers best interpret this change in the strategic behavior of the learners by the explicit training of the strategies and the scaffolding provided by the teacher and the peers along the training period. When the strategies were explicitly replicated by the teacher, a bit by bit students were able to adapt them to their current competence level and started applying them to new texts. Even when students failed to apply them, the errors and trials with the teacher and peers' scaffold helped students monitor their application of the strategies and enhanced their awareness of the strategies' use. These findings are in line with Casanave (1988), Dent & Koenka (2016) statements that the teacher's articulation of these mental processes through guided dialogues and the think- aloud techniques, help the less proficient learners to monitor specific parts of reading and regulate their thinking. The finding that students' high order skills was enhanced is in the direction of statement that offering the Collins, Brown, & Newman, (1988). Students the chance to practice the strategies explicitly scaffolds their awareness of the strategies, helps them produce these skills and scales their strategy use from the low order to the high order thinking skills. Similar results were reported by Palincsar, Brown & Campione (1993) and suggested that students improve in reading when they study with RT because they are offered the chance to practice the strategies that successful readers utilize. Similar results were reported by Lysynchuk, Pressley & Vye (1990), who taught the four strategies of RT to students with reading difficulties and reported measurable gains in their standardized reading competence. They found that when the four strategies were modelled by knowledgeable person the chance increased for the students to ask questions about the strategies and about the text of reading. Consequently, along the period of training, students can internalize these strategies towards more independent cognitive/metacognitive behaviors.

Another important factor that may interpret the change in the students' high- order thinking skills is the length of the intervention period. In fact, two weeks training and three months of teaching were barely enough to make a difference in the students' strategic behavior. It was clear that students need sufficient time to replicate the teacher's method, adapt the strategies, practice them and adjust the use of each strategy. Moreover, with a sample of 84 students, the time factor was critical to spend some time with each student and observe her performance. This finding is consistent with Raslie et.al (2015) that a sufficient duration of RT intervention and guiding the reading groups to share their monitoring of comprehension are crucial conditions in implementing RT with struggling reader.

However, the current research strongly attributes the positive results of the experimental group to the teaching context that accompanied the process of teaching. For example, Brown (1992) found that when learning takes place in cooperative, contextualized environments, students are more likely to activate the strategies they learnt. Practicing the strategies regulate their thinking and enhances their metacognitive abilities. However, students would not be able to put these strategies into work out of social collaborative context of learning. RT intervention of the current study has provided both: The strategy training and the cooperative context necessary to articulate these strategies through interaction.

Effect of Using RT on Reading Comprehension Progression

The second research question in this study aimed at tracking the progress that the two groups made over the intervention period. The findings of the unit tests revealed no significant differences between the means of the independent sample T- test until the fifth test was administered. However, a significant difference in the comprehension gains appeared in the fifth test, for the interest of the experimental group (Table 3-4). Moreover, the experimental group's means continued rising from the first to the last school test. That indicates a positive effect of RT on the learners reading ability along the period of the intervention. Yet, the control group has also showed an advance in the means of the independent

sample T test, but the reciprocal group's means were higher along the five tests.

Different conclusions can be drawn from these findings. First, Reciprocal Teaching is a successful method in enhancing reading skills and increasing the comprehension gains. However, the results from the school tests show that RT is a time consuming method that required students a period of three months learning to show a difference in their reading performance. Such finding explains that the explicit teaching of the strategies can be fruitful with a sufficient period of teaching, especially with intact learners who have not been exposed to strategic training before. In addition, having no difference in the performance of the two groups in the first four tests implies that RT practice was essential condition for students to adapt the strategies to their own reading behaviors and adjust the use and appropriateness of each strategy in the reading text. Students needed time to activate the strategies they learned in solving the reading problems they face and to transfer these strategies to new unfamiliar texts. The difference in the fifth reading text illustrated that practice and time factors are sensitive components for the success of any strategic training. The reciprocal group was only able to make the difference in reading performance with the intensive practice of the strategies in a suitable learning period. That enabled the students to eternalize the strategies slowly and according to the cognitive perspective change their deliberate strategy use to the more spontaneous use. Thus, the strategic behavior of the subjects transformed into more automatic one after a time of practice. This result implies that longer teaching period would have generated more significant difference in the two groups learning.

Second, a comparison of the students' performance in the standardized pre/post-tests and the school tests shows that the students' performance was more apparent and significant than their performance in the teacher- designed tests. There are various factors that may justify such results. For example, (a) the lack of same level texts' difficulty, (b) the nature of required responses and (c) the quality of the texts in the teacher-designed tests may have contributed to the absence of difference at first. It was impossible to include texts of the exact difficulty level throughout the five tests. Further, the responses required in the teacher-designed tests were open answers. Students needed to read and write the answers they find suitable. Moreover, the tests included a variety of expository and narrative texts. This was contrary to the questions in the pre/post-tests which required closed responses and provided four multiple choices for each question. This type may have been easier for students since it provides limited choices. Students in this case can make proximities to the text for choosing the best answer. Moreover, the three texts that were included in the pre/posttest were all of expository type. The current findings coincided with Leung's (2005) who stated that maintaining the same text level was not possible throughout all the tests. Further, he added, students' gains in the expository texts were higher than those in the narratives.

Effect of Reciprocal Reading Strategies on Developing and Using Strategic Reading Practices:

The overall strategy use of students was high. 70% of the responses on the reading practices indicated that RT cooperative groups were successful in promoting strategy use while reading. The research attributes the positive outcome in implementing reading strategies to the teaching method. It is thought that activating RT in cooperative multi- levels groups had a positive impact on promoting these strategies among students while reading. These findings were found consistent with a huge body of research on strategy instruction. For instance, Tajalli & Satari (2013) encouraged teachers to teach reading strategies to EFL learners. Training students to these strategies improves their language learning. Once they become familiar with these techniques, they will have a repertoire of cognitive options to select from and apply to the reading problems. RT enables students to mature in their strategy use through the social interaction. When they discuss and think aloud, they are offered the chance to regulate their thinking, thus, their cognitive abilities grow through meaningful learning (Cohen & Lotan, 2014). RT strategies also provide students with systematic cyclic structure for learning the strategies. That is when one student fails to make a summary of a paragraph; the remedial action of scaffold is offered to her and then gradually fades as she improves (Brown, 1992). Moreover, the research justifies students' progress in applying the reading strategies to explicit teaching of the strategies prior teaching. It was mentioned that the teacher has trained students to RT strategies explicitly two weeks before actual teaching started. During this period, students got familiar with the four strategies and how to apply them during reading. However, teacher's guidance and peers assistance continued available during the teaching period.

Recommendations

The current study investigated the effectiveness of Reciprocal Teaching (RT) method in improving secondary English as a foreign language learners reading comprehension and improving learners reading practices and strategies. The results showed that learners did improve their reading comprehension skills and began to use reading strategies and practices that they never used before. Accordingly, the researchers strongly encourage English as foreign language teachers to use RT especially with struggling readers and learners with learning challenges. Taking into account the contest in which the RT methodology is implemented is vital. This is because social interaction and cooperation among learners are profoundly required for the method's success.

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