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The Effect of Using PO4R Instructional **Strategy on Enhancing Jordanian Tenth Graders' Reading Fluency**

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The Effect of Using PQ4R Instructional Strategy on Enhancing Jordanian Tenth Graders' Reading Fluency

Abstract:

The study explored the effect of PQ4R instructional strategy on reading fluency. The sample consisted of (107) students from four tenth-grade classroom sections in four schools in North West Badia Directorate of Education. The sample distributed into two groups: Experimental group consisted of two sections (one male and one of female), and control group consisted of two tenth grade sections (one male and one female). The study used a quasi-experimental design, by using PQ4R instructional strategy to teach the experimental group and the conventional methods to teach the control group. The instrument was a pre-post reading fluency test developed by the researcher based on reviewing previous literature. The results revealed statistically significant differences in the mean scores of the experimental group and the control group in favor of the experimental group. It found statistically significant differences in the mean scores of the students' in the two sub-skills of reading fluency due to gender, in favour of females, and no statistically significant differences in the interaction between groups and gender. The results showed significant improvements of the experimental group in the two sub-skills of reading fluency (speed, accuracy), which could be attributed to employing PQ4R instructional strategy.

Keywords: PQ4R Instructional Strategy, Reading Fluency, Reading Speed, Reading Accuracy.

أثر استخدام استراتيجية PQ4R التعليمية على الطلاقة اللغوية لطلبة الصف العاشر في المدارس الحكومية الأردنية

هدفت الدراسة إلى التعرف على أثر استخدام استراتيجية PQ4R التعليمية على الطلاقة اللغوية لطلبة الصف العاشر في المدارس الحكومية الأردنية. تكونت عينة الدراسة من (107) طالب وطالبة من طلبة الصف العاشر في (4) مدارس تقع في مديرية تربية لواء البادية الشمالية الغربية. تم تقسيم عينة الدراسة إلى مجموعتين: مجموعة تجريبية اشتملت (شعبة ذكور وشعبة إناث)، ومجموعة ضابطة اشتملت (شعبة ذكور وشعبة إناث). اتبعت الدراسة المنهج شبه التجريبي، حيث تم استخدام استراتيجية PQ4R التعليمية مع طلبة المجموعة التجريبية، في حين تم استخدام الطريقة التقليدية مع طلبة المجموعة الضابطة. ولتحقيق أهداف الدراسة، تم استخدام اختبار الطلاقة اللغوية المطور من قبل الباحث بالرجوع إلى عدد من الدراسات السابقة. أُظهرت نتائج الدراسة وجود فروق ذات دلالة احصائية في متوسط علامات المجموعة التجريبية والمجموعة الضابطة، لصالح المجموعة التجريبية. كما ووجدت الدراسة فروق ذات دلالة إحصائية في متوسط علامات الطلبة في المهارتين الفرعيتين للطلاقة اللغوية تعزى لمتغير الجنس، لصالح الإناث، بينما لم توجد فروق ذات دلالة إحصائية في التفاعل بين المجموعات والجنس. وأظهرت النتائج تحسنًا ملحوظًا لدى طلبة المجموعة التجريبية في المهارتين الفرعيتين للطلاقة اللغوية (السرعة والدقة)، والتي يمكن أن تعزي إلى استخدام استراتيجية PQ4R التعليمية.

كلمات مفتاحية: استراتيجية PO4R التعليمية، الطلاقة اللغوية، سرعة القراءة، دقة القراءة.

Introduction:

Reading is the most important language skill both native and foreign English language teachers strive to develop among their students because it is the key pillar for successes in the different school subjects. Being able to read meaningfully means that students can read what is presented to them of learning material and obtain the content of such material. Therefore, teaching reading is a strategic goal every language teacher is eager to promote among his students.

As a foreign language, English has been a problem for those wishing to learn it as a second language, especially for Arab students since there are major variations morphologically, semantically and phonologically between Arabic and English. The major problems encountered in learning English include the four basic language skills: Reading, writing, speaking and listening. For these reasons, educators have always strived to design effective instructional methods able to help students master language skills. This quest is still the major concern for educators as this is a hard task to fulfill and a major goal needed to be achieved as it marks the success or failure of teaching English as a second language (Samantray, 2014).

When learning English, this process goes through different levels, including the need to master the four language skills: Reading, writing, speaking, and listening. Nonetheless, reading is the most important skill, and this may be due to its significance in making individuals more able to connect the ideas convoyed by the reading text with their background knowledge to help in better understanding the verbal words. Reading is a basic English skill when noticing that it is one of the effective instruments for capturing meanings given in a written text as it enriches one's knowledge and experiences. Grabe (2009) defines reading as an interaction between reader and text which requires efficient knowledge to world and given topic in addition to an efficient knowledge of the language. While Clark and Sliberstein (1987: 21) define reading as an active cognitive process of interacting with printed material and monitoring comprehension to establish meaning.

In the same line, Nur' Ebs (2019) maintains that reading is a key pillar that should be mastered by any given language learner wishing to be proficient in such language. For example, in English, reading gives EFL learners opportunities to obtain meanings from written words and then use them to enrich their vocabulary repertoire. Krashen and Terrell (2000) claim that reading requires that readers should able to recognize what the writer wishes to communicate of ideas; something needing using more effective instructional strategies.

Although reading fluency is an important skill, Rasinski, Rupley, Paige and Dee Nichols (2016) claim that reading fluency is one of the ignored language skills by teachers and curricula developers although it is a crucial skill depending on learners ability in word recognition, accuracy and atomicity in reading; thus signifying readers to be fluent and have the adequate tools to capture the implicit and explicit meanings presented in the reading text. For LaBerge and Samuels (1974), reading fluency can be described as a means for reading the text and fulfilling the sensible level of reading comprehension. For readers who can read fluently, the text is a challenge for them and gaining the needed level of reading comprehension is the main goal for reading activity. Accordingly, the inability to be a fluent reader represents a threshold between being a successful reader or to fail to capture the meaning of any text.

Rasinski, Reutzel, Chard, and Linan-Thompson (2011) define reading fluency as one reading skill entailing the readers ability to have a sufficient level of word recoding skills; one competence showing that the reader have the needed levels in phoenix, automaticity in word recognition in addition to the proficient use of prosodic expressions such as stress, pitch and the selection of suitable phrasing orders. Furthermore, fluent readers are those able to identify different words, decode them easily while dedicating the least cognitive with no apparent hesitation. In the same vain, Birjandi and Ahangari (2008) add that fluent readers involves concurrent mental and cognitive processes in decoding letters, making words and phrases, being phonemically aware, have the ability to be familiar with different forms of alphabets while working at the same time on decoding

them. As for Allington (1983), reading fluency is one of the major neglected language skills since it has not been one of the major interests among educators and scholars. According to Pikulski and Chard (2005: 2), "reading fluency refers to rapid, efficient, accurate word recognition skills that permit a reader to construct the meaning of text. Reading fluency is also manifested in accurate, rapid, expressive oral reading and is applied during, and makes possible, silent reading comprehension". As a language skill, reading fluency involves three components, which are being accurate in word decoding; a competency in phonics; speed and automaticity in word recognition (Allington, 1983; Chall, 1996); the ability to use prosodic features of a given language such as stressing; pitch and phrasing (Hudson, Lane & Pullen, 2005; Basaran, 2013).

As for the first component of reading fluency which is accuracy, it is readers' ability to decode words accurately while reading the text. It also entails being proficient in recognizing words and decoding them as being accurate in reading represent readers ability to know the alphabetic principals of any given language and integrating them in the semantic memory of the reader so as to build logical meanings (Ehri and McCormick, 1998). The second component of reading fluency is automaticity, which is as claimed by Adams (1990) is a major feature of skilful reader since readers work on reproducing the reading text in an expressive spoken language. In the same line of research, Samuels (2007) defines automaticity as a measure of reading speed, while capturing the meanings hidden in the reading text. In other words, it is simply to reach an acceptable level of reading comprehension. Reading prosody, which is the third component in reading fluency, is readers' ability in predicting the accuracy of the words being presented in the text. It entails various reading skills such as expression, intonation and voice pitch (Hudson, Lane & Pullen, 2005).

Teaching reading fluency can take many forms. Scholars have been mainly interested in designing instructional methods able to provide such a language skill effectively for students. For example, one of the instructional strategies used to teach reading is PQ4R, which is a learning strategy that has been used to improve students' outcomes by concentrating on the students as the center of the learning process (Setiawati & Corebima, 2018). Maesah, Sundari and Rentnowati (2012) indicate that the use of PQ4R is very effective in promoting students metacognitive skills. In the same vain, Wahyuningsih (2012) emphasizes the importance of using instructional strategies such as PQ4R in teaching students language skills, especially reading related skills.

The theoretical basis of PQ4R dates back to the work of Thomas and Robinson when they wrote their book "Improving reading in every class" which opened new ventures for teachers to use this instructional strategy in their classes (Slavin, 1997). Pehofer and Roy (2003) maintain that PQ4R is basically build on a simple assumption is that enabling students to go through well-structured steps while learning reading skills is an effective means to facilitate their mastery of various reading competences. Martina, As and Yulina (2018) indicate that PQ4R strategy is one of the instructional strategies contributing in promoting student' abilities, in understanding the reading text which in turn increases their mental capacity to process information, to help them reach logical conclusions and more accurate information from the text being read.

Previous studies have shown the effectives of PQ4R strategy in developing students learning skills since it engages them more in class; it increases their ability to understand the learning content as it helps in increasing their attention and concentration which all has a positive effect on their in class cognitive and behavioural skills that are considered basics for acquiring the learning material presented in class, especially for those students encountering learning problems (Shoaib, Inamullah, Irshadullah & Ali, 2016). Although, PQ4R as an instructional strategy has been very effective in promoting reading comprehension; and knowing that reading fluency is one component of reading comprehension, the majority of previous studies addressed reading comprehension as a whole construct. Fatuni'mah (2015) in Indonesia studied the effect of PQ4R in improving students reading comprehension in storytelling. The sample included 128 ninth grade students divided into even groups: Experimental taught reading comprehension using PQ4R strategy; control taught the

same learning material using the conventional material using conventional method. The results showed statistically significant differences in students' means score on the reading comprehension post-test, in favour of the experimental group.

AlShamali (2017) investigated the effect of PQ4R strategy in increasing students' reflective thinking and reading comprehension skills in Palestine. A sample of 139 fifth grade students were selected and assigned randomly into two groups: The first consisted of 72 students and was taught using PQ4R strategy (Experimental group), while the second consisted of 67 students taught using the conventional method (Control group). To verify the effectiveness of PQ4R strategy, a reflective thinking scale and a reading comprehension test were administrated to students before and after the implementation of the instructional strategies. The results of the study showed a positive effect for PQ4R instructional strategy in improving both reflective thinking and reading comprehension skills among students as there were statistically significant differences, in favor of the experimental group, in students posttest means scores on the reflective thinking scale and reading comprehension test.

Martina, As and Yulina (2018) sought to examine the effect of using PQ4R strategy on eighth grade students reading comprehension. A sample of 32 eighth grade students was taught reading text to improve their reading comprehension using PQ4R instructional strategy. A one group of the semi experimental design was employed as students were asked to complete a reading comprehension test before and after the administration of the instructional strategy. The results found that PQ4R strategy was effective in improving students reading comprehension skills. Also, Al-Emoush (2018) conducted a study aimed to discover the effect of using PQ4R strategy on developing female sixth grade of reading comprehension skills in Arabic Language. The study used quasi experimental approach, through a sample consisted of 49 female students divided into two groups: An experimental group consisted of 24 students who learned Arabic language reading comprehension skills using PQ4R strategy, and control group consisted of 25 students learned using conventional method. The study used a list of reading comprehension skills and reading comprehension skills test. The results showed that there were significant differences in reading comprehension, in favour of the group taught using PQ4R strategy, which proves the effectiveness of PQ4R strategy in improving students reading comprehension.

Using a sample of 66 eleventh grade students, Nur' Ebs (2019) studied the effect of PQ4R strategy on improving reading comprehension skills in English as a second language among Nigerian secondary school students. Students were evenly distributed into two study groups, an experimental totalling 33 taught using PQ4R instructional strategy and a control containing 33 students taught using conventional method. To examine the effect PQ4R strategy, students completed a reading comprehension test before and after the administration of the instructional strategies. There were statistically significant differences in students reading comprehension posttest means scores, in favor of the experimental group. Another study by Sarimanah, Dewi, Efendi and Sallu (2019) in Indonesia sought to prove the effect of blended learning PQ4R instructional strategy in increasing reading comprehension skills among elementary school students. The sample of the study included 20 basic stage students who were taught reading comprehension using blended learning based PQ4R instructional strategy. To check the effectiveness of PQ4R strategy based instructional strategy, a one experimental group design was employed. There were statistically significant differences between students' pre-posttest means scores, in favor of posttest, which signify the positive effect of blended learning based PQ4R instructional strategy.

Reviewing previous studies, it can be noticed that the objective of most previous studies concentrated on examining the effectiveness of PQ4R on reading comprehension. For example, Nur' Ebs (2019) studied the effect of PQ4R strategy on improving reading comprehension skills in English as a second language, and found that there were statistically significant differences in students reading comprehension posttest means scores, in favor of the experimental group. Al-

Emoush (2018) examined the effect of using PQ4R strategy on developing female sixth grade of reading comprehension skills in Arabic Language. The results showed that there were significant differences in reading comprehension, in favour of the group taught using PQ4R strategy. But the current study examines the effectiveness of PQ4R on improving reading fluency, which is one component of reading comprehension total construct. As for the design of previous studies, all previous studies are consistent with the current study in the procedures adopted, which is quasi-experimental design, such as AlShamali (2017) and Sarimanah, Dewi, Efendi and Sallu (2019). With respect to the samples being employed in the previous studies, different academic levels were used. As for Martina, As and Yulina (2018) sought to examine the effect of using PQ4R strategy among a sample of eighth grade students, while Sarimanah, Dewi, Efendi and Sallu (2019) investigated the effectiveness of PQ4R instructional strategy among elementary a sample of elementary school students. And this gives evidences that there is a need to examine the effectiveness of PQ4R on improving reading fluency among EFL students. Therefore, this study seeks to examine the effect of using PQ4R instructional strategy on enhancing Jordanian tenth graders' reading fluency.

Statement of the Problem

Reading fluency as reported by Hudson, Lane and Pullen (2005) is one of the neglected language skills despite its vital role in enabling second language learners acquire the needed competency to communicate in the foreign language. The existing methodologies of implementing reading fluency instruction is based on assessments that are driven by short understanding of the main construct and may cause implementing unsuitable instruction in classrooms, which may result in major misunderstanding of the characteristic of skilled reading (Kuhn, Schwanenflugel & Meisinger, 2010). Therefore, Parenti and Chen (2015) argued that reading fluency is the key pillar for acquiring the basic reading skills, including comprehension. This means that working on developing reading fluency should attract the attention of language teachers, especially those who teach English as a foreign language. And despite all this, there is still a theoretical gap in EFL field of study especially in examining the effective instructional strategies that may help students in promoting their reading fluency.

The researcher noticed that several studies have focused on investigating the effect of using PQ4R strategy in improving reading comprehension among EFL students in Jordan (e.g. Al-Emoush, 2018; AlShamali, 2017). However, and up to the researcher best knowledge, no research has been conducted to examine the effect of PQ4R strategy in developing reading fluency skills. Furthermore, the researcher argues that the use of PQ4R strategy in teaching reading fluency has not been fully examined and needs further study, which lays the foundation for this study. Students in Jordanian schools suffer from weakness in reading skills, especially, reading fluency, which the researcher has noticed from his experience with different students' levels. Furthermore, teachers are still lacking the adequate information about the effective instructional strategies that may help them improve students reading skills, especially reading fluency. Although PQ4R has been employed for a while in teaching reading comprehension, it's used in teaching reading fluency is still under investigated and this what has urged the researcher to conduct this study.

Questions of the Study

The purpose of this study is to investigate the effect of PQ4R instructional strategy on improving reading fluency among tenth grade students in Jordan. The study attempts to answer the following two questions:

- 1. Are there any statistically significant differences at ($\alpha = 0.05$) in the students' mean scores on the reading fluency posttest due to the use of PQ4R instructional strategy vs. conventional teaching method, due to gender (male or female), and due to the interaction between the two?
- 2. Are there any statistically significant differences at ($\alpha = 0.05$) in the students' mean scores on the two subskills of reading fluency (reading rate/speed and reading accuracy) post-test due

to the use of PQ4R instructional strategy vs. conventional teaching method, gender (male or female), and the interaction between the two?

Purpose of the Study

The study aims to define the significant differences in the students' mean scores on the reading fluency posttest in light of using PQ4R instructional strategy vs. conventional teaching method, gender (male or female), and in light of the interaction between the two. In addition to define the significant differences in the students' mean scores on the two sub-skills of reading fluency (reading rate/speed and reading accuracy) post-test in light of using of PQ4R instructional strategy vs. conventional teaching method, gender (male or female), and in light of the interaction between the two

Design and Participants of the Study

The participants of this study consisted of 107 male and female students from four tenth grade classroom sections in the scholastic year 2019/2020 in four schools in North West Badia Directorate of Education. The experimental group consisted of two of these sections; (one section of male students and one of female students). The control group consisted of the other two tenth grade sections; (one section of male students and one of female students).

The researcher used the quasi experimental approach of two group design; experimental and control groups. The experimental group consisted of (56) male and female students, taught using PQ4R instructional strategy, while the control group consisted of (51) male and female students taught using the conventional teaching method.

Validity of the Instructional Strategy

The researcher validated the instructional strategy and the reading fluency test by consulting a jury of ten EFL university professors, English language supervisors, English language teachers, and EFL curriculum experts from the Ministry of Education. The jury was asked to read the test and check suitability and equivalence in difficulty of the reading passages with the students' levels. They were also asked to check the validity of the criteria used to judge words scored as correct or incorrect. Their comments and suggestions, such as adding word count at the end of each line to help examiners to count words and to replace one text with an easier text because of its advanced level, were taken into consideration in rewriting the questions of the test.

The Instructional Strategy

In order to achieve the objectives of the study, the researcher developed an instructional strategy based on PQ4R strategy. The instructional strategy was based on using the six phases of PQ4R strategy; preview, questioning, reading, reflection, recite and review, which were applied in the strategy through pre-defined roles and instructions for teachers and students. Each strategy and phase of PQ4R strategy was applied according to specified instructions by implementing different activities related to reading fluency to improve students' participation and engagement with the reading texts.

The main objective of this instructional strategy is to improve reading fluency skills among students. The strategy targeted two basic reading fluency sub-skills. The first of these was reading aloud accurately and effortlessly and with expression. The second sub-skill was reading aloud with appropriate rates of reading fluency.

PQ4R consist of the following six steps that are implemented by the teacher when wishing to teach the targeted skills. This includes:

- Preview, as the students take a general idea about the main concepts presented in the reading text.
- Questioning, as the student poses general questions about what have been read in the previous step and shares his questions with classmates and teacher to be responded later.
- Reading, the student can read the reading text more deeply so as he can understands the content of the reading text.

- Reflection, the student is asked to connect the new ideas he acquires from the previous steps with his background knowledge by reflecting on what he reads.
- Recite, the student is asked to recite the responses of the questions he posed in previous stages of the instructional strategy (posing question, reflection) and read them a loud.
- Review, the final stage of PQ4R and indicates that student sheds lights on the main topic of the reading text; insuring that all questions being posed are answered. Teacher instructs students to organize the ideas presented while reading and writing summaries or critical reviews of what they have learned.

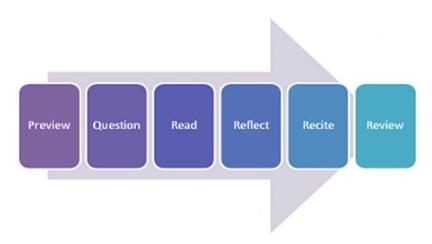


Figure (1): The Phases of PQ4R

Using PQ4R strategy, the researcher first asked students to read the text silently and for a short time, and then were instructed to skim the main idea. This step was meant to introduce students to the whole reading text while maintaining a sense of connection between them and the text. After that, the teacher directed students to give as many questions as they can about the reading text. This process continued until the whole steps of PQ4R strategy were completed. In other words, students were not only immersed in the reading text, but they were also given opportunities to express their own opinion about the reading text and this had a significant effect on their reading fluency as a whole and their speed and accuracy.

Reading Fluency Test

The researcher designed a pre-post reading fluency test to measure the effect of the PQ4R instructional strategy on two main reading fluency skills; reading accuracy and reading rate/speed. The researcher provided teachers with four equivalent passages with full instruction on how to perform and measure the reading fluency test. The researcher and the teachers cooperated in the process of performing and measuring students' levels in reading accuracy and reading rate/speed. Accuracy was measured by subtracting the total words from the total errors, divided on the total words read per minute multiplied by 100%. Reading speed was measured by calculating number of words read correctly per minute.

Reliability of the Reading Fluency Test

To ensure the reliability of the reading fluency test, the researcher carried out a pilot study on 25 tenth grade students from Al-Harsh Secondary School for Boys who were excluded from the participants of the study. The test-retest reliability was calculated using Pearson-correlation, with a time interval of two weeks between the two administrations of the reading fluency test. The score for the correct answers was 0.91 and for the incorrect answer was 0.87, while the test-retest reliability for the whole scale was 0.82, which are appropriate and high values and indicate the reliability of the scale.

Scoring Rubric

- 1- The number of total words within one minute is calculated.
- 2- The number of words scored incorrect is counted.
- 3- The number of words scored incorrect is subtracted from the total number of words read to obtain the number of words read correct.

Variables of the Study

- **Dependent Variable**: PQ4R Instructional Strategy.

- **Independent Variable**: Reading Fluency.

Results and Discussion

Results Related to the First Question

To answer the first question of the study: Are there any statistically significant differences at $(\alpha=0.05)$ in the students' mean scores in reading fluency post-test due to the use of PQ4R instructional strategy vs. conventional teaching method, due to gender (male or female), and due to the interaction between the two? Means and standard deviations and estimated marginal of reading fluency pre and post-test scores due to method of teaching and gender variables were computed as presented in tables 1.

Table 1: Means, standard deviations and estimated marginal means of reading fluency pre and post-test scores due to method of teaching and gender variables

Method of teaching	Gender		Pre		Post	Estimated Mear	N	
	Gender	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Error	IN.
Experimental	Male	75.94	9.844	88.44	7.313	88.022	.896	32
	Female	73.50	11.803	89.04	6.792	90.027	1.037	24
	Total	74.89	10.694	88.70	7.037	89.025	.684	56
Control	Male	77.24	9.066	81.28	7.486	80.116	1.017	25
	Female	73.96	10.887	79.42	9.450	80.143	.995	26
	Total	75.57	10.072	80.33	8.510	80.130	.709	51
Total	Male	76.51	9.449	85.30	8.152	84.069	.679	57
	Female	73.74	11.221	84.04	9.528	85.085	.720	50
	Total	75.21	10.359	84.71	8.802	84.577	.493	107

Table 1 shows a slight variance in the means of the reading fluency scores according to method of teaching and gender, to find out whether there are statistically significant differences in these means, Two Way ANCOVA was conducted for the dimensions, Two Way ANCOVA was conducted for total score, and results are shown in table 2.

Table 2: Two Way ANCOVA related to method of teaching, gender and interaction between them

						1
	Type III Sum of		Mean			Partial Eta
	Sum or		Mican			Lia
Source	Squares	df	Square	F	Sig.	Squared
Pre-Total	3680.451	1	3680.451	143.517	.000	.585
Method	2086.808	1	2086.808	81.374	.000	.444
GENDER	26.764	1	26.764	1.044	.309	.010
Method *	25.829	1	25.829	1.007	210	010
GENDER	23.829	1	23.829	1.007	.318	.010
Error	2615.768	102	25.645			
Corrected Total	8212.019	106				

Table 2 shows that there are statistically significant differences at (α = 0.05) due to method of teaching variable in favor of PQ4R instructional strategy (F = 81.374, df = 1). There are also no statistically significant differences at (α = 0.05) due to gender (F = 1.044, df = 1). There are no statistically significant differences at (α = 0.05) due to the interaction between method and gender (F= 1.007, df = 1). The results of the study showed that there were statistically significant differences between the scores of the experimental and control groups in the reading fluency posttest due to the use of PQ4R instructional strategy vs. conventional teaching method in favour of the experimental group.

PQ4R strategy could be used to teach different language skills in addition to reading comprehension. Although, previous studies have concentrated on examining the effect of PQ4R strategy on students reading comprehension (e.g. Sarimanah, Dewi, Efendi & Sallu, 2019; Nur' Ebs, 2019) and since reading fluency is one skill of reading comprehension, the applicability of PQ4R strategy in teaching reading fluency is promising as such an instructional strategy gives students invaluable opportunities to be engaged in an interesting reading experience. As known, PQ4R strategy consists of predetermined procedures led by the teacher; engaging students in such procedures enable them to have a more active learning experience. They are asked to preview the reading text before being fully immersed in reading activity. They are given a chance to practice independent learning, which is vital for students to acquire the necessary skills included in the reading activity.

The strategy was designed to improve two important subskills of reading fluency, reading speed and accuracy. As reading fluency is one skill of reading comprehension, the researcher sought to test the effect of the instructional strategy on improving both skills concurrently assuming that improving reading comprehension among students will eventually leads to significant improvements in their reading fluency. It is indicated from the results that the experimental group scored higher in the post-test due to the use of PQ4R instructional strategy. PQ4R strategy is an interactive strategy that provides an opportunity for students to be fully engaged in an interesting and amusing a group reading activity in addition to depending on their own reading skills to master the skills provided. Furthermore, PQ4R strategy is well structured instructional strategy taking students in a logical sequence from one step to another; and the teacher directs students clearly on how they can benefit from each previous step to switch to the other. This means that students can go from one phase to the other based on their learning progress and whether they need to go back to previous steps that can help them install what they have learned. The researcher took into consideration while designing the strategy the individual differences between students. Therefore, the strategy contained different tasks and activities that meet this need and provided aids for teachers to help students learn from each other.

The results of the study also revealed that there were no statistically significant differences in the students' mean scores in the reading fluency post-test due to the students' gender and interaction between teaching methods and gender. The instructional strategy aimed at improving reading fluency among students from both genders. The researcher considered designing the strategy not to be gender bias and suitable for different educational environment. As no previous study has been conducted -to the researcher limited knowledge -to examine the effect of PQ4R strategy on students reading fluency, these results and their explanations are based on the researcher own experience as an EFL teacher for more than fifteen years. Thus, it is logical to assume that such results can have other explanations according to the learning environment where PQ4R strategy is used.

Results Related to the Second Question

To answer the second question: Are there any statistically significant differences at ($\alpha = 0.05$) in the students' mean scores in the two subskills of reading fluency (speed and accuracy) post-test due to the use of PQ4R instructional strategy vs. conventional teaching method, due to gender (male and female), and due to the interaction between the two? Means and standard deviations and estimated

marginal of the two sub skills of reading fluency pre and post-test scores due to method of teaching and gender variables were computed as presented in tables 3.

1. Correct

Table 3: Means, standard deviations and estimated marginal means of (correct) pre and post-test scores due to method of teaching and gender variables

Group	Candan		Pre		Post	Estimated Mear	NI	
	Gender	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Error	N
Experimental	Male	43.47	17.152	51.88	16.706	51.362	.680	32
	Female	44.33	16.725	56.04	15.799	54.712	.786	24
	Total	43.84	16.822	53.66	16.310	53.037	.520	56
Control	Male	41.96	15.646	45.64	15.108	46.552	.769	25
	Female	41.88	18.903	46.23	18.673	47.214	.754	26
	Total	41.92	17.209	45.94	16.852	46.883	.539	51
Total	Male	42.81	16.381	49.14	16.188	48.957	.513	57
	Female	43.06	17.752	50.94	17.876	50.963	.544	50
	Total	42.93	16.954	49.98	16.941	49.960	.374	107

Table 3 shows a slight variance in the means of the (correct) scores according to method of teaching and gender variables, to find out whether there are statistical significant differences in these means, Two Way ANCOVA was conducted for the dimensions, Two Way ANCOVA was conducted for total score, and results are shown in table 4.

Table 4: Two Way ANCOVA related to method of teaching, gender and interaction between the variables on (correct) scores

	Type III Sum of		Mean			Partial Eta
Source	Squares	df	Square	F	Sig.	Squared
Q1	27078.686	1	27078.686	1831.403	.000	.947
Method	997.394	1	997.394	67.456	.000	.398
GENDER	106.322	1	106.322	7.191	.009	.066
Method * Gender	47.728	1	47.728	3.228	.075	.031
Error	1508.148	102	14.786			
Corrected Total	30419.963	106				

Table 4 shows that there are statistically significant differences at (α = 0.05) due to method of teaching variable in favor of PQ4R instructional strategy (F = 67.456, df = 1). There are also statistically significant differences at (α = 0.05) due to gender in favor of females (F = 7.171, df = 1). Furthermore, there are no statistically significant differences at (α = 0.05) due to the interaction between method and gender (F = 3.228, df = 1).

2. Incorrect

Table 5: Means, standard deviations and estimated marginal means of (incorrect) pre and post-test scores due to method of teaching and gender variables

Group			Pre		Post	Estimated Mean	0	N.T
	Gender	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Error	N
Experimental	Male	12.97	5.264	6.53	3.894	6.786	.326	32
	Female	15.13	5.644	7.08	4.064	5.763	.380	24

	Total	13.89	5.486	6.77	3.940	6.275	.250	56
Control	Male	12.12	5.783	10.48	4.900	11.355	.370	25
	Female	13.23	5.346	10.73	4.813	10.794	.361	26
	Total	12.69	5.537	10.61	4.809	11.075	.259	51
Total	Male	12.60	5.464	8.26	4.753	9.071	.247	57
	Female	14.14	5.518	8.98	4.792	8.279	.262	50
	Total	13.32	5.518	8.60	4.762	8.675	.179	107

Table 5 shows a slight variance in the means of the (incorrect) scores according to method of teaching and gender variables, to find out whether there are statistical significant differences in these means, Two Way ANCOVA was conducted for the dimensions, Two Way ANCOVA was conducted for total score, and results are shown in table 6.

Table 6: Two Way ANCOVA related to method of teaching, gender and interaction between the variables on (incorrect) Scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Pre- incorrect	1659.622	1	1659.622	489.911	.000	.828
GROUP	599.266	1	599.266	176.900	.000	.634
GENDER	16.211	1	16.211	4.785	.031	.045
GROUP * GENDER	1.410	1	1.410	.416	.520	.004
Error	345.535	102	3.388			
Corrected Total	2403.720	106				

Table 6 shows that there are statistically significant differences at $(\alpha=0.05)$ due to Method of teaching variable in favor of PQ4R instructional strategy (F= 176.900, df =1). There are also statistically significant differences at $(\alpha=0.05)$ due to gender in favor of females (F= 4.785, df =1). Furthermore, there are no statistically significant differences at $(\alpha=0.05)$ due to the interaction between method and gender (F= 0.416, df =1). The results of the study showed that there were statistically significant differences in the mean scores in the two subskills of reading fluency due to the use of PQ4R instructional strategy vs. conventional teaching method in favor of the experimental group.

The improvement of the experimental group in the two subskills of reading fluency (speed and accuracy) is due to using the PQ4R instructional strategy. As such strategy is based on well-defined and highly structured activities, it was easy to develop enriching learning activities that have been proven to be effective in increasing reading comprehension; thus reading fluency among students. Affirming this fact, Nur' Ebs (2019) indicated that PQ4R strategy if highly structured can be an effective tool for promoting students reading comprehension. Knowing that reading fluency is one skill of reading comprehension, engaging students in vivid learning experiences by directing them to move back and forth through the reading text made students more than capable of improving their reading fluency as a whole and in the individual sub skill.

Documenting the effectiveness of PQ4R strategy, Slavin (2005) maintained that the secret behind the success of PQ4R strategy is that it makes students go through sequential steps aiming to help students understand the reading text. Furthermore, Sanacore (2000) explains that PQ4R strategy helps students in increasing their reading skills, including reading fluency, by motivating them to concentrate more on the reading text which assist them in maintaining the main ideas found in the reading text. In other words, PQ4R strategy enables students to increase their vocabulary, which in term improve their reading fluency and this was very evident in this study. For the researcher, the success of PQ4R strategy may be attributed to the fact that such an instructional strategy may help teachers relate the reading text to the real life experiences of students, something that helps in better understanding the text, which has positive effect on their reading fluency.

Furthermore, since PQ4R strategy entails separate steps, this may help students know, understand, analyze, apply, and evaluate their progress in the reading process, which helps them in understanding the reading text and maintain facts presented in it. This has significant positive effects on their reading fluency and this is what was concluded in this study.

In order to improve reading speed and reading accuracy among students, the researcher designed different activities, worksheets, and teaching techniques. These techniques depended on different procedures of PQ4R strategy, such as preview, questioning, reading, reflection, recite and review, which allowed students to read the reading text deeper with well-defined and structured procedures taking them through the reading activity on their own pace. This means that students can go back and forward in the reading the instructional strategy based on their own conceptions that they have mastered the targeted skill. Knowing that teachers play a vital role in this instructional strategy since he directs students and give them immediate feedback about their progress, students are more independent in learning the required skill. Reading fluency contains two important subskills that can be improved by the collaboration between teacher and students, but, both of them are based on teachers' directions and to how extent are willing to follow their teachers, students are in a perfect position to work on improving their reading speed and accuracy as PQ4R strategy provides them with an opportunities to be fully engaged in the reading experience on their own.

The results of the study also showed statistically significant differences in the mean scores due to gender, in favour of females. This result is consistent with what is documented in previous literature indicating that females have higher levels of verbal intelligence. For example, Al-Jawaldeh, Al-Khamash and Maqableh (2013) indicated that females report higher levels of verbal abilities since they show early dispositions to acquire new words in their early years and are more able to develop higher richer vocabulary compared to males. Since this study used one of the instructional strategies needing direct interaction between the student, his peers and the teacher, and knowing that such a strategy provides a rich environment for verbal communication, females are more able to absorb what is presented in this learning context; something that have positive effects on their acquisition of reading fluency as a whole and its sub-skills.

Conclusion:

The study examined the effectiveness of PQ4R instructional strategy on improving Jordanian tenth grade students (Male and female) reading fluency, and found that this instructional strategy was very effective. Therefore, EFL curricula developers can design activities that are consistent with the basic tenets of PQ4R as an interactive instructional strategy that can be used effectively in EFL classrooms. The results also found that PQ4R had similar effect despite the gender, which implies that both male and female teachers are equally called to adopt this effective instructional strategy.

Recommendations

Based on the findings of the study, the researcher recommends that authorities responsible for education in Jordan, such the Ministry of Education to implement this instructional strategy in teaching English as a foreign language, and especially in teaching reading. Furthermore, EFL curricula developers in MOE are called to benefit from the opportunities provided by those constructivist teaching strategies such as PQ4R as effective instrument in EFL classrooms. Finally, future research may examine the effectiveness of PQ4R on other language skills such as listening comprehension and creative writing.

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