Research Paper

Averting EFL Learners' Reading Anxiety by Implementing Reading Strategies and Vocabulary Learning Strategies

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Abstract
This quantitative study examined the relationship among EFL learners' choice of vocabulary learning strategies (CVLS), reading strategies (RS), and reading anxiety (RA). To this end, 123 Iranian EFL learners (81 female; 42 male) within the age range of 24 to 39 were selected by employing convenience sampling. The data collection instruments were the Foreign Language Reading Anxiety Scale (Saito et al., 1999), the Survey of Reading Strategies (Mokhtari & Sheorey, 2002), and the Vocabulary Learning Strategies Questionnaire (Schmitt, 1997). Subsequent to checking and verifying the pertinent assumptions, using Pearson's correlation coefficient indicated that there was a significant and negative correlation between CVLS and RA and a significant and positive correlation between CVLS and RS; in addition, a significant and negative correlation between RS and RA was observed. Furthermore, the results of multiple regression analysis and comparing the β values revealed that RS makes the strongest statistically significant unique contribution to suppressing reading anxiety, and CVLS turned out to be the second significant preventer of RA. In general, the obtained results confirmed that both RS and CVLS can significantly prevent EFL learners' RA; therefore, it is fairly reasonable to consider RS and CVLS while planning the pedagogical practice.

Keywords: *Reading anxiety, Reading comprehension, Reading strategies, Vocabulary learning strategies*

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رابطه بین راهبردهای یادگیری واژگان (CVLS)، راهبردهای خواندن(RS)، و اضطراب خواندن (RA) در فراگیران زبان انگلیسی

این مطالعه کمی توصیفی رابطه بین راهبردهای یادگیری واژگان (CVLS)، راهبردهای خواندن(RS)، و اضطراب خواندن (RA) را در فراگیران زبان انگلیسی بررسی می کند. بدین منظور، 123 زبان آموز زبان انگلیسی (81 زن؛ 42 مرد) در محدوده سنی 24 تا 39 سال با استفاده از نمونه گیری در دسترس انتخاب شدند. ابزار جمع آوری داده ها مقیاس اضطراب خواندن زبان خارجی (سایتو و همکاران، 1999)، بررسی راهبردهای خواندن (مختاری و شیوری، 2002) و پرسشنامه راهبردهای یادگیری واژگان (اشمیت، 1997) بود. پس از بررسی و تأیید مفروضات مربوطه، ضریب همبستگی پیرسون نشان داد که ارتباط منفی و معناداری بین انتخاب راهبردهای یادگیری واژگان و اضطراب خواندن و ارتباط مثبت و معناداری بین انتخاب راهبردهای یادگیری واژگان و راهبردهای خواندن وجود دارد. همچنین ارتباط منفی و معناداری بین اضطراب خواندن و راهبردهای خواندن مشاهده شد. علاوه بر این، نتایج یک تحلیل رگرسیون چندگانه و مقایسه مقادیر β نشان داد که راهبردهای خواندن قویترین سهم منحصر به فرد آماری معنیداری را در سرکوب اضطراب خواندن دارد ومعلوم شد که انتخاب راهبردهای یادگیری واژگان دومین پیشگیری کننده مهم از اضطراب خواندن است. به طور کلی، نتایج به دست آمده تأیید کرد که هم راهبردهای خواندن و هم انتخاب راهبردهای یادگیری واژگان میتوانند به طور قابل توجهی از اضطراب خواندن در فراگیران زبان انگلیسی جلوگیری کند. بنابراین، در نظر گرفتن راهبردهای خواندن و انتخاب راهبردهای یادگیری واژگان در هنگام برنامه ریزی آموزشی نسبتا معقول است.

واژگان کلیدی: اضطراب خواندن، درک مطلب، راهبردهای خواندن، راهبردهای یادگیری واژگان

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Introduction

English language teaching (ELT) scholars and practitioners largely concur with the credo that reading skill, among the four major language skills, could be considered principally significant as it is believed to function as the primary means of attaining and learning new information (Chen & Intaraprasert, 2014; Grabe & Stoller, 2001), and, consequently, having a good command of English (Anderson & Cheng, 2004). Rooted in this premise, the ELT domain has witnessed a growing cognizance of the significance of developing English as a foreign language (EFL) learners' reading skills over the past few years (Nosratinia et al., 2013). However, it is not unbeknownst to EFL practitioners and researchers that developing learners' reading skills is one of the most problematic and challenging pedagogical areas (Dreyer & Nel, 2003), which is significantly and undeniably affected by learners' level of anxiety while focusing on reading tasks (Song, 2018).

In general, anxiety is "a state of anticipatory apprehension over possible deleterious happenings" (Bandura, 1997, p. 137), and language learning anxiety or foreign language learning anxiety is a type of anxiety specifically associated with learning a foreign language (Young, 1991, as cited in Ohata, 2005), believed to be a highly important factor to consider in ELT contexts (Mohammadi Golchi, 2012). As Worde (1998) maintained, approximately half of foreign language learners experience foreign language learning anxiety to some extent, and many educators consider it the most common negative feeling which causes intervention, especially inside the classroom (Saito et al., 1999) and obstructs the learning process (Arnold, 2007).

Primarily, foreign language learning anxiety was mostly associated with oral production in L2; however, recently, it has been extended to cover all language skills (Kimura, 2008). One of the most ignored but potentially the most debilitating types of foreign language learning anxiety is the anxiety accompanying reading comprehension, which is called foreign language reading anxiety or simply reading anxiety (Horwitz et al., 1986). Reading anxiety is defined as "the feelings of nervousness, uneasiness or stress an individual suffers from while he or she is reading a text in a second or foreign language" (Çapan & Pektas, 2013, p. 182). It is "a mediating variable that intervenes at some point between the decoding of a text and the actual processing of textual meaning" (Horwitz et al., 1986, p. 215).

The literature on foreign language reading abounds with studies that highlight reading anxiety as one of the principal key issues in reading comprehension (Deb, 2018), which is originated from different sources such as learners' unfamiliarity with a foreign language writing system, difficulty in pronunciation, or difficulty in getting the meaning of words and sentences. Numerous research studies (e.g., Barzegar & Hadidi, 2016; Çapan & Pektas, 2013; Jafarigohar & Behrooznia, 2012) have reported that reading anxiety can typically hamper the reading comprehension process of foreign language learners, and it is believed that anxious language learners tend to go through more off-task, hindering thoughts that have a tendency to further interrupt the reading comprehension process (Mohammadpur & Ghafournia, 2015; Tysinger et al., 2010). Anxious readers reduce their curiosity which diminishes cognitive capabilities and abilities such as logical thinking, intense observation, and inquiring (Naghadeh et al., 2014). Hence, in recent years, scholars and researchers have focused on different ways in order to decrease the level of foreign language reading anxiety (Brown, 2001), and one of the highly recommended avenues is using different types of strategies as assistant tools (Oxford, 2003; Sellers, 2000).

Wenden and Rubin (1987) viewed strategy research as "part of the general area of research on mental processes and structures that constitute the field of cognitive science" (p. 6). In the realm of foreign language teaching, strategies are defined as the language learning behaviors that learners engage in, the knowledge that they have about their behaviors, and the knowledge they

have of themselves as learners and the language they are learning (Zaker, 2015; Wenden & Rubin, 1987). Among different categories of strategies, reading strategies can help EFL learners to develop the quality of reading and reduce the level of reading anxiety (Grabe, 2009, cited in Fatemipour & Hashemi, 2016), and various research studies (e.g., Ghonsooly & Loghmani, 2012; Gönen, 2015; Şen, 2009; Zare, 2013; Zare & Othman, 2013) have reported that reading strategies are very crucial in helping language learners in text comprehension as well as decreasing the required time for reading.

Reading strategies have been defined by as mental processes that readers consciously select to employ in order to succeed in completing reading tasks (Cohen, 1990). In a similar vein, Baker and Boonkit (2004) defined reading strategies as "techniques and methods readers use to make their reading successful" (p. 302). According to Carrell and Grabe (2002), skillful readers can apply different reading strategies throughout reading different texts. Moreover, reading strategies can be considered the means for diminishing language learners' reading anxiety, mostly owing to the fact that when language learners are acquainted with and make use of appropriate reading strategies, they will basically be capable of responding to questions related to reading ability effortlessly (Petrus & Shah, 2020).

Considering the other key factors in facilitating reading comprehension, vocabulary knowledge is frequently highlighted as an extremely influential factor, and it is believed that language learners' vocabulary size has a significant positive association with their reading comprehension (Nagy, 1988). Besides, it is believed that a lack of appropriate vocabulary knowledge will bring about reading anxiety in different situations (Nation, 2001). As Mikulecky (2008) and Cheng and Good (2009) argued, there is a positive association between increasing vocabulary acquisition and reading comprehension. Therefore, considering the abovementioned points, it is legitimate to expect that language learners' employment of vocabulary learning strategies, in addition to reading strategies, may function as another indispensable contributing element in reducing the level of reading anxiety (Tsuchida, 2002). Vocabulary learning strategies are defined as "any set of techniques or learning behaviors, which language learners reported using in order to discover the meaning of a new word, to retain the knowledge of newly-learned words, and to expand their knowledge of vocabulary" (Intaraprasert, 2004, p. 9); they are also regarded as "the actions that learners take to help themselves understand and remember vocabulary items" (Cameron, 2001, p. 92).

It has been proposed that vocabulary learning depends, in some way, on the amount of mental and emotional energy used in processing a word (Hedge, 2000). Through using different types of vocabulary learning strategies, readers could assist themselves in developing such emotional and mental processing (Nosratinia & Zaker, 2015). Nation (2001) argued that a large amount of vocabulary could be acquired with the help of vocabulary learning strategies, and these strategies prove useful for students of different language levels; and without an adequate range of vocabulary size, learners encounter problems in understanding the language they are exposed to (Alderson & Banerjee, 2002). Consequently, an effective choice of vocabulary learning strategies is essential for language learners, as vocabulary knowledge has a strong link with reading comprehension, and the absence of vocabulary learning strategies could be an obstacle to the efficient learning of a target language (Matsuoka & Hirsh, 2010).

Rooted in the notion that reading anxiety is a factor that distorts second language acquisition in general and reading comprehension in particular (Petrus & Shah, 2020), it seemed to be logical to explore its association with other reading comprehension-related factors for the sake of expanding the existing psycholinguistic knowledge in the field. Besides, based on the extensive review of the related literature, and to the best of the researcher's knowledge, no quantitative study to date has systematically investigated the relationship between reading anxiety, on the one hand, and reading strategies and vocabulary learning strategies, on the other hand in a data-driven

manner in a single study. Therefore, this study was an effort to partially fill this gap through answering the following research questions:

Q1: Is there any significant relationship between EFL learners' choice of vocabulary learning strategies and reading anxiety?

Q2: Is there any significant relationship between EFL learners' choice of vocabulary learning strategies and reading strategies?

Q3: Is there any significant relationship between EFL learners' reading strategies and reading anxiety?

Q4: Is there any significant difference between EFL learners' choice of vocabulary learning strategies and reading strategies in preventing their reading anxiety?

Review of Literature

Reading Anxiety

Undoubtedly, there are numerous barriers that make the process of learning a second or foreign language difficult, and anxiety is believed to be one of the major barriers in this regard (Petrus & Shah, 2020). According to psychologists, anxiety is a negative emotion that impairs learning, and while fear is a response to present and imminent threats, anxiety is a fear response to imagined or distant threats (Jalongo & Hirsh, 2010). Horwitz et al. (1986) defined language learning anxiety as "a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process" (p. 128); they argued that foreign language anxiety is a separate and complex phenomenon which might be rooted in the mismatch between foreign language learners' mature thoughts and their immature foreign language competency.

Notwithstanding that L2 reading might seem to be less affected by foreign language anxiety, many students are prone to experiencing reading-related anxiety, which can lead to weak reading comprehension (Saito et al., 1999). Reading anxiety is defined as "the feelings of nervousness, uneasiness or stress an individual suffers from while he or she is reading a text in a second or foreign language" (Çapan & Pektas, 2013, p. 182). Saito et al. (1999) were the first researchers who found that foreign language reading anxiety is a separate phenomenon but related to foreign language anxiety in general. Saito et al. (1999) referred to two aspects of foreign language reading that evoke anxiety, unfamiliar scripts, and writing systems; they argued that L2 learners who are more familiar to the scripts of the L2 would be less expected to experience anxiety in the process of reading, although, at some point of the reading act, the reader would not understand of the whole text because of the incomplete knowledge of the cultural material underlying the text.

Reading Strategies

Reading is a cognitive activity in which the reader takes part in a conversation with the author through the text. Thus reading strategies are considered one of the features of cognitive psychology which are essential for successful comprehension (Zare, 2012). According to Alkhaleefah (2011), reading strategies are defined as "any physical or mental processes that are consciously and deliberately employed by EFL/L2 readers in order to either solve problems in and/or facilitate comprehension of texts during the reading task(s)" (pp. 31-32).

Janzen (2003) believes that these strategies range from bottom-up strategies to more comprehensive ones like top-down strategies. Bottom-up strategies are defined as making use of information, which is already present in the data, such as understanding the text by analyzing the words and sentences in the text itself or looking up an unfamiliar word in the dictionary. On the other hand, top-down strategies make use of previous knowledge, such as connecting what is being read to readers' background knowledge (Janzen, 2003). Some other strategies include

evaluating, asking questions, checking for answers, making predictions, summarizing, paraphrasing, and translating (Zare & Othman, 2013), as well as reading aloud, guessing, re-reading the texts, and visualizing the information (Lien, 2011).

Vocabulary Learning Strategies

For ESL/EFL learners, vocabulary plays a crucial role in learning the language through supporting the reading, writing, speaking, and listening skills (Ali Askar, 2016). Qian (2002) proposed that vocabulary knowledge comprises four interrelated dimensions:(a) vocabulary size and (b) depth of vocabulary knowledge, which contains all lexical subcomponents, such as phonemic, graphemic, morphemic, syntactic, semantic, collocational, associative, and phraseological properties, as well as frequency and register, (c) lexical organization, and (d) automaticity of receptive-productive knowledge.

Stoffer (1995) distinguished the strategies which learners use to determine the meaning of new words when they first encounter them from the ones they use to consolidate meanings when they encounter the words again. Schmitt classified the strategies in his taxonomy as discovery strategies (social and determination strategies) and consolidation strategies (social, memory, cognitive, and metacognitive strategies for learning vocabulary). Social strategies are included in two groups of strategies because they can be used for both purposes. In discovery strategies, determination strategies are used for the discovery of a new word's meaning without attaining somebody's knowledge. Memory strategies involve those approaches to relate the word with some existing learned knowledge. Schmitt defined cognitive strategies as "manipulation or transformation of the target language by the learner" (1997, p. 205). Cognitive strategies refer to the repetition and employing some mechanical means for learning vocabulary. Lastly, metacognitive strategies are defined as a conscious overview of the learning process, and they assist students to control, plan, monitor and evaluate the best ways to study (Schmitt, 1997).

Methodology

Design

The present study adopted a descriptive quantitative research design in the sense that there was no manipulation in the research context (Best & Kahn, 2006). The predictor variables were choice of vocabulary learning strategies and reading strategies, and EFL learners' reading anxiety was considered the predicted variable. Furthermore, participants' gender was categorized as an intervening variable over which the researchers had no control.

Participants

The participants of the present study were 123 graduate-level male and female (81 or 66 % female and 42 or 34% male) EFL learners within the age range of 24 to 39, studying English Language Translation, Teaching English as a Foreign Language, and English Language Literature at Islamic Azad University, Central Tehran and Sanandaj branches. They were selected based on a convenience sampling strategy. It should be mentioned that the preliminary number of participants was 177, but 22 of them were excluded from data analyses due to providing incomplete answers, bringing the number to 155 participants. Moreover, through the data analysis process, a number of outlier cases ($n = 32$) were removed from the data set ($n = 155$) in order to meet the assumptions of employing parametric tests, bringing the final number to 123 participants.

Instrumentation

In order to collect the data, the following three questionnaires were utilized.

Foreign language reading anxiety scale. Designed by Saito et al. (1999), this self-report measure elicits EFL learners' anxiety over reading difficulties in the target language, relative

difficulty of reading skills, and EFL learners' perception of various aspects of reading. It contains 20 Likert-scale items, and the response continuum is 1 = *strongly disagree* to 5 = *strongly agree*. The ultimate score is estimated in the possible range of 20 to 100, and the respondents are supposed to answer the questions in 10 minutes. The calculated reliability index of this instrument in this study was estimated to be 0.88, using Cronbach's alpha coefficient.

Survey of reading strategies. Developed by Mokhtari and Sheorey (2002), this instrument consists of 30 statements related to different types of reading strategies. It includes three categories of strategies: 13 items on Global Reading Strategies (GLOB), are intentional, carefully planned techniques by which learners monitor or manage their reading; 8 items on Problem Solving Strategies (PROB) which are actions and procedures that readers use while working directly with the text, and 9 items on Support Strategies (SUP) that are basic support mechanisms intended to aid the reader in comprehending the text such as using a dictionary or taking notes. The calculated reliability index of this instrument in this study was estimated to be 0.91, using Cronbach's alpha coefficient.

Vocabulary learning strategies questionnaire. Developed by Schmitt (1997), this instrument deals with five different groups of strategiesm, namely determination, social, memory, cognitive, and metacognitive. It includes 58 five-point Likert-type items, asking the subject to indicate each category they use, and the scores can range between 58 to 290. The recommended time allocated to this questionnaire is 35 minutes. The calculated reliability index of this instrument in this study was estimated to be 0.89, using Cronbach's alpha coefficient.

Procedure

To achieve the purpose of this study and address the research questions, the researchers followed the following procedure. Because of the Coronavirus pandemic, the online version of the three instruments of the study was prepared. This was followed by sharing the link of the online questionnaires among the participants using messaging applications and e-mail. The main ethical guidelines were followed (Zaker & Nosratinia, 2021), and the participants were provided with the required information on the purpose of the study, the answering procedure, and the time they may spend on answering the questionnaires. The questionnaires were answered by 177 of the abovementioned EFL learners; however, only a number of 155 received questionnaire sets were answered completely. Moreover, through the data analysis process, a number of outlier cases (*n* = 32) were removed from the data set (*n* = 155) in order to meet the assumptions of employing parametric tests bringing the final number to 123 participants. The completed files/questionnaires were scored by the researchers, and finally, the statistical procedures were conducted in order to answer the formulated research questions.

Data Analysis

In the present study, the data analysis provided descriptive statistics and inferential statistics. Descriptive statistics like mean, standard deviation, and standard error of the mean were calculated, and the reliability of the research instruments was estimated through Cronbach's alpha coefficient. Answering the first, second, and third research questions required employing a correlational analysis. Based on the fact that the assumptions of normality of distribution were met, the parametric test (Pearson's product-moment correlation coefficient) was employed in order to answer the research questions.

Observing a statistically significant relationship between reading anxiety, on one hand, and choice of vocabulary learning strategies and reading strategies, on the other hand, was the prerequisite for dealing with the fourth research question, which needed running a multiple

regression. Running each of the abovementioned analyses called for checking some assumptions and preliminary analyses that are discussed in the following sections.

Results

Using the collected data, the researchers conducted a series of pertinent calculations and statistical routines, whose results are presented in this section.

Preliminary Analyses

Prior to answering the research questions, it was essential to check a number of assumptions and perform some preliminary analyses. To begin with, the assumptions of interval data and independence of subjects/participants (Tabachnick & Fidell, 2013) were already met as the present data were measured on an interval scale, and the participants were independent of one another. In order to check the linearity of relations, the researchers created multiple scatterplots, which is presented in Figure 1.
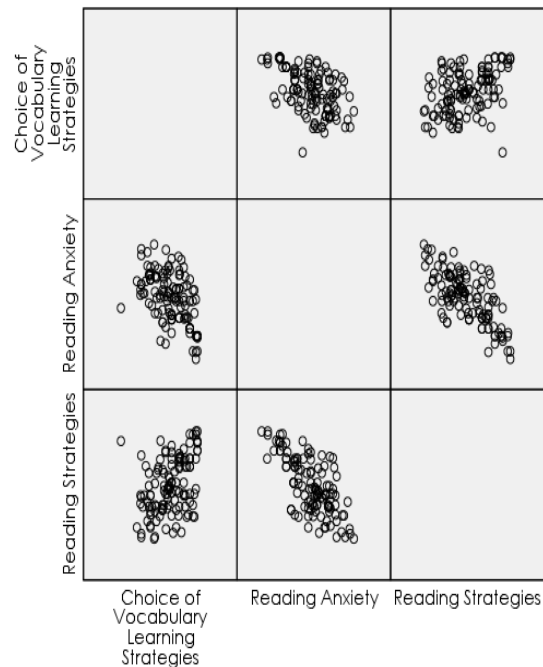
Figure 1
Multiple scatterplots of choice of vocabulary learning strategies, reading anxiety, and reading strategies

Through inspecting Figure 1, it can be inferred that the relationship between these variables is not non-linear. Additionally, the distribution of scores was not funneled shape, i.e., wide at one end and narrow at the other; therefore, the assumption of homoscedasticity was met. For checking the normality of the distributions, two procedures were followed. First, the descriptive statistics of the data were obtained, and kurtosis and skewness ratios were calculated; this was followed by inspecting the distribution histograms and Normal Q-Q Plots. Second, the Kolmogorov-Smirnov test was run as a further attempt to inspect the normality of the distributions.

Table 1
Descriptive Statistics of the Scores

	N	Mean	SD	Skewness			Kurtosis		
				Statistic	Std. Error	Ratio	Statistic	Std. Error	Ratio
Choice of Vocabulary Learning Strategies	123	178.46	47.588	-.262	.218	**-1.2**	-.630	.433	**-1.45**
Reading Anxiety	123	58.33	11.284	-.206	.218	**-0.94**	-.521	.433	**-1.2**
Reading Strategies	123	109.38	20.777	.105	.218	**0.48**	-.919	.433	**-2.12**
Valid N (listwise)	123								

As demonstrated in Table 1, the distribution of choice of vocabulary learning strategies, reading anxiety, and reading strategies scores seemed to be normal as all the pertinent skewness ratio values and almost all of the kurtosis ratio values fell within the range of -1.96 and +1.96. This point supports the normality of distribution for the choice of vocabulary learning strategies, reading anxiety, and reading strategies scores (Tabachnick & Fidell, 2013). Next, checking the actual shapes of the distribution of the scores and the normal probability plots provided further support for the normality of distributions. Finally, Kolmogorov-Smirnov and Shapiro-Wilk tests were run, the results of which are presented in Table 2.

Table 2
Tests of Normality of Total Scores

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Choice of Vocabulary Learning Strategies	.071	123	**.198**	.971	123	.009
Reading Anxiety	.070	123	**.200***	.986	123	.263
Reading Strategies	.076	123	**.081**	.972	123	.012

Note. [a]Lilliefors Significance Correction.

As presented in Table 2, the Sig. values of the Kolmogorov-Smirnov test, all of the variables were above the critical value (.05). Therefore, the normality of distribution was confidently supported and confirmed (Tabachnick & Fidell, 2013). Considering the results obtained above, it was systematically suggested that the assumptions of normality were not violated for the scores of the three variables of this study. Therefore, the researchers concluded that the research questions should be answered through employing parametric tests.

Answering the Research Questions
   In what follows, each research question is separately addressed and dealt with. However, as the legitimacy of considering the third and fourth research questions is dependent on the answers of the first and second research questions, the preliminary analyses pertinent to the third and fourth research questions will be reported after answering the initial research questions.

   The first research question. The first driving force behind conducting this study was to systematically investigate the relationship between EFL learners' choice of vocabulary learning

strategies and reading anxiety. In order to answer this question, the data were analyzed using Pearson's product-moment correlation coefficient, a parametric formula. Table 3 shows the result of this analysis.

Table 3
Pearson's Correlation Between Choice of Vocabulary Learning Strategies and Reading Anxiety

		Choice of Vocabulary Learning Strategies	Reading Anxiety
Choice of Vocabulary Learning Strategies	Pearson Correlation	1	**-.512**[**]
	Sig. (2-tailed)		.000
	N	123	123

**Correlation is significant at the 0.01 level (2-tailed).

According to the results of the analysis reported in Table 3, it was concluded that there was a significant and negative correlation between the choice of vocabulary learning strategies and reading anxiety, $r = -.512$, $n = 123$, $p < .01$, and high levels of choice of vocabulary learning strategies were associated with low levels of reading anxiety. According to Cohen (1988), this signified a large effect size (99% confidence intervals: -0.664 to -0.319).

The second research question. The second intention of this study was to systematically investigate the relationship between EFL learners' choice of vocabulary learning strategies and reading strategies. In order to answer this question, the data were analyzed using Pearson's product-moment correlation coefficient Table 4 shows the result of this analysis.

Table 4
Pearson's Correlation Between Choice of Vocabulary Learning Strategies and Reading Strategies

		Choice of Vocabulary Learning Strategies	Reading Strategies
Choice of Vocabulary Learning Strategies	Pearson Correlation	1	**.407**[**]
	Sig. (2-tailed)		.000
	N	123	123

**Correlation is significant at the 0.01 level (2-tailed).

According to the results of the analysis reported in Table 4, it was concluded that there was a significant and positive correlation between the choice of vocabulary learning strategies and reading strategies, $r = .407$, $n = 123$, $p < .01$, and high levels of choice of vocabulary learning strategies were associated with high levels of reading strategies. According to Cohen (1988), this signified a medium-to-large effect size (99% confidence intervals: 0.195 to 0.583).

The third research question. The third intention of this study was to systematically investigate the relationship between EFL learners' reading strategies and reading anxiety. In order to answer this question, the data were analyzed using Pearson's product-moment correlation coefficient. Table 5 shows the result of this analysis.

Table 5
Pearson's Correlation Between Reading Anxiety and Reading Strategies

		Reading Anxiety	Reading Strategies
Reading Anxiety	Pearson Correlation	1	**-.710****
	Sig. (2-tailed)		.000
	N	123	123

**Correlation is significant at the 0.01 level (2-tailed).

According to the results of the analysis reported in Table 5, it was concluded that there was a significant and negative correlation between reading anxiety and reading strategies, $r = -.71$, $n = 123$, $p < .01$, and high levels of reading strategies were associated with low levels of reading anxiety. According to Cohen (1988), this signified a large effect size (99% confidence intervals: -0.808 to -0.574).

Based on the findings of the three initial research questions, both choices of vocabulary learning strategies and reading strategies were significantly and negatively related to reading anxiety. In other words, the choice of vocabulary learning strategies and reading strategies significantly interact with reading anxiety among EFL learners. As a result, the researchers could opt for answering the fourth research question, considering the choice of vocabulary learning strategies and reading strategies the predictor variables of the predicted variable, reading anxiety. However, as the correlations were negative, the fourth research question would basically deal with inspecting the between a choice of vocabulary learning strategies and reading strategies, which one could more significantly prevent reading anxiety.

The fourth research question. As reported earlier, the correlations between reading anxiety, on the one hand, and choice of vocabulary learning strategies and reading strategies, on the other hand, turned out to be negative and significant. As a result, the researchers opted for the multiple regression analysis in order to answer the fourth research question. Prior to running the analysis, the Tolerance (*Tolerance* = 1 > .10) and VIF (*VIF* = 1 < 10) values were checked, indicating that multicollinearity did not exist in this sample. Moreover, inspecting the Normal Probability Plot (P-P) and the scatterplot of the standardized residuals indicated that the assumption of normality was met. Based on the obtained results, R came out to be 0.751, and R^2 came out to be 0.563. This means that the model explains 56.3 percent of the variance in reading anxiety (Cohen, Cohen, West, & Aiken, 2003). Moreover, $f^2 = 1.288$ indicated a large effect size for the regression. The results of ANOVA ($F (2, 119) = 76.77$, $p = 0.0005$), the results of which were considered significant, indicated that the model can significantly predict EFL learners' choice of vocabulary learning strategies and reading anxiety, and reading strategies.

Table 5 demonstrates the Standardized Beta Coefficients, which signify the degree to which each predictor variable contributes to the prediction of the predicted variable. The inspection of the Sig. values showed that both choices of vocabulary learning strategies and reading strategies make a statistically significant unique contribution to the equation as their Sig. values are less than .05.

Table 6
Regression Output: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Part Correlations
		B	Std. Error	β			
1	(Constant)	105.335	3.852		27.344	.000	

Choice of Vocabulary Learning Strategies	-.065	.017	**-.266**	-3.889	**.000**	-.236
Reading Strategies	-.323	.038	**-.588**	-8.590	**.000**	-.520

The comparison of *β* values revealed that reading strategies has the largest absolute *β* coefficient (*β* = -0.588, *t* = -8.59, *p* = 0.0005). This means that reading strategies make the strongest statistically significant unique contribution to suppressing reading anxiety. Therefore, it was concluded that reading strategies could more significantly prevent the reading anxiety scores of the participants. This is also to say that reading strategies are more negatively affected by high levels of reading anxiety. Choice of vocabulary learning strategies turned out to be the second significant preventer of reading anxiety scores (*β* = -0.266, *t* = -3.889, *p* = 0.0005). Finally, the inspection of Part correlation (semi-partial correlation coefficient) revealed that reading strategies uniquely explain 27.04 percent of the variance in reading anxiety (-.52 × -.52 = .2704).

Discussion

This correlational descriptive study (Best & Kahn, 2006) aspired to investigate and scrutinize the way EFL learners' choice of vocabulary learning strategies, reading anxiety, and reading strategies, as the correlated variables, are associated. Further, the secondary purpose of the study was to compare the choice of vocabulary learning strategies and reading strategies in terms of preventing/hampering reading anxiety. Subsequent to the satisfaction of the assumptions of normality, the research questions were answered by employing parametric tests.

Through answering the first research question, it was indicated that there was a significant and negative correlation between the choice of vocabulary learning strategies and reading anxiety, *r* = -.512, *n* = 123, *p* < .01. This finding brings about a systematic support for the notion that the implementation of strategies in general (Janzen, 2003; Miyanaga, 2007) and vocabulary learning strategies, in particular (Tsuchida, 2002), is an effective remedy for alleviating reading anxiety among EFL learners. However, as there were no previous studies with the same design and focus, the researchers could not compare this particular finding with those already obtained. Consequently, other replication studies are needed in order to inspect the existence of a relationship between EFL learners' choice of vocabulary learning strategies and reading anxiety (Best & Kahn, 2006).

The basis of formulating the second research question was to inspect the state of the relationship between EFL learners' choice of vocabulary learning strategies and reading strategies. The obtained results indicated that there was a significant and positive correlation between the choice of vocabulary learning strategies and reading strategies, *r* = .407, *n* = 123, *p* < .01, reporting the only observed positive correlation in this study. With reference to the fact that both choices of vocabulary learning strategies and reading strategies can be classified as metacognitive mental qualities (Gönen, 2015; Matsuoka & Hirsh, 2010; Nosratinia & Zaker, 2015), expecting this association was not a far-fetched idea, and it makes sense to argue that higher levels of reading strategy use can lead to higher levels of using of vocabulary learning strategies. However, similar to the previous research question, as there were no previous studies with the same design and focus, it was not possible for the researchers to compare this particular finding with those already obtained. As a result, it is sensible to suggest that other replication studies are needed in order to confirm the existence of a relationship between these two variables (Best & Kahn, 2006).

The third research question attempted to inspect the state of the relationship between EFL learners' reading anxiety and reading strategies. The results of running Pearson's product-moment correlation coefficient as a parametric test indicated that there existed a significant and negative correlation between reading anxiety and reading strategies, $r = -.71$, $n = 123$, $p < .01$. This finding provides explicit confirmation for the supposition that using reading strategies has the capacity to curtail reading anxiety (Miyanaga, 2007). Further, reading strategies demonstrated the largest negative correlation with reading anxiety in this study; this could be interpreted as a preliminary indication of the advantage of reading strategies over vocabulary learning strategies in terms of hampering/preventing EFL learners' reading anxiety. However, a systematic probe was required in order to scrutinize and compare the predictive capacities of vocabulary learning strategies and reading strategies in terms of preventing reading anxiety. This fact turned into the rationale for formulating the last research question of this study.

Answering the fourth research question enabled the researcher to probe into the capacity of vocabulary learning strategies and reading strategies for preventing reading anxiety among EFL learners. Based on the obtained results, reading strategies makes the strongest statistically significant unique contribution to suppressing reading anxiety ($\beta = -0.588$, $t = -8.59$, $p = 0.0005$) as compared to vocabulary learning strategies ($\beta = -0.266$, $t = -3.889$, $p = 0.0005$). This basically means that although both of these variables possess the capacity to hamper reading anxiety, the use of reading strategies qualifies as a better choice as far as the curtailment of reading anxiety is concerned.

The abovementioned difference between the choice of vocabulary learning strategies and reading strategies in preventing reading anxiety directly confirms the previously obtained results in research questions one and three. More specifically, a higher level of correlation suggests a higher predictive capacity (Best & Kahn, 2006); therefore, a higher level of negative correlation between reading anxiety and reading strategies had already suggested a higher predictive (in this case, preventive) capacity for reading strategies. Pondering the mental and cognitive reasons behind this difference, it makes sense to compare reading strategies and vocabulary learning strategies regarding their level of cognition and complexity. Through looking at the items included in the questionnaires pertinent to reading strategies and vocabulary learning strategies, it seems as if reading strategies deal with more complex mental processes.

Previous research advocates the notion that highly anxious readers habitually employ less complicated strategies when interacting with written inputs (Janzen, 2003; Miyanaga, 2007). On that account, one proposed justification for the comparative advantage of reading strategies in preventing reading anxiety can be the higher level of cognition implemented when EFL learners apply reading strategies. Finally, it is essential to make the point that participants' internal factors, which are highly diverse and influential (Nosratinia & Zaker, 2014, 2017), along with other features of the context and participants, can influence the findings of studies in the ELT domain (Best & Kahn, 2006; Tabachnick & Fidell, 2007); this suggests that the state of the relationship between EFL learners' choice of vocabulary learning strategies, reading strategies, and reading anxiety should be checked and confirmed in other ELT contexts.

Conclusion

Over the past few decades, the realm of ELT has been witnessing a growing cognizance of the pivotal role played by reading skills in developing and mastering English language proficiency (Nosratinia et al., 2013). Being defined as a receptive skill, reading exposes the language learners to the language as a tool for attaining new information (Chen & Intaraprasert, 2014; Rashtchi & Keyvanfar, 2007). However, it is not unbeknownst to EFL practitioners and researchers that developing learners' reading skills is one of the most problematic and challenging pedagogical

areas (Dreyer & Nel, 2003). In consequence, a myriad of studies have undergone close scrutiny of the factors which could have an effect on the development of reading skills; this trend has been contemporaneous with an endeavor to fathom how learners' unique mental qualities would affect the development of reading skills (Deb, 2018; Nosratinia & Zaker, 2014).

As an influential mental quality particularly pertinent to reading comprehension among EFL learners, reading anxiety is explicitly acknowledged to be an undesirable factor that hampers the process of reading comprehension (Barzegar & Hadidi, 2016; Deb, 2018; Sellers, 2000; Song, 2018). Defined as "the feelings of nervousness, uneasiness or stress an individual suffers from while he or she is reading a text in a second or foreign language" (Çapan & Pektas, 2013, p. 182), reading anxiety is a mental attribute with an undeniable impact upon EFL learners in terms of how the written input is processed. Rooted in this premise, it is legitimate to scrutinize the mental factors and qualities which demonstrate the potential to curtail reading anxiety among EFL learners.

The implementation of strategies is believed to be one of the remedies for alleviating reading anxiety among EFL learners (Janzen, 2003; Miyanaga, 2007). Considering the fact that EFL learners require a complex lexical range that efficiently supports them in dealing with reading (Brown, 2001), employing vocabulary learning strategies seems to be an invaluable asset for EFL learners (Tsuchida, 2002). According to Intaraprasert (2004), vocabulary learning strategies are defined as "any set of techniques or learning behaviors, which language learners reported using in order to discover the meaning of a new word, to retain the knowledge of newly-learned words, and to expand their knowledge of vocabulary" (p. 9).

Aspiring to attenuate reading anxiety among EFL learners, the implementation of reading strategies is believed to be another effective cure (Brown, 2001). Numerous studies have confirmed the substantial contribution of reading strategies to reading comprehension (Gönen, 2015; Pani, 2004; Şen, 2009). Furthermore, there exists a supposition among ELT scholars that using reading strategies has the capacity to curtail reading anxiety (Miyanaga, 2007), turning it into a legitimate choice when it comes to hampering reading anxiety.

The obtained results in this study indicated that although reading strategies and vocabulary learning strategies both possess the capacity to hamper reading anxiety, the use of reading strategies qualifies as a better choice as far as the curtailment of reading anxiety is concerned. Considering the obtained results and the following speculations on the pertinent causes (stated in the Discussion section of this study), it is legitimate to conclude that employing reading strategies can significantly assist EFL learners' in developing their reading skills, finally catalyzing the process of language learning. Therefore, providing planned instruction on using reading strategies can be regarded as a sensible pedagogical choice in ELT contexts.

Since EFL learners' choice of vocabulary learning strategies and reading strategies were significantly and negatively related to their reading anxiety, the results might imply that EFL teachers should try to maximize and enhance language learners' levels of vocabulary learning strategies and reading strategies in order to reduce their reading anxiety level. Additionally, EFL teachers are also suggested to identify the potential sources and causes of language learners' reading anxiety and employ various applicable techniques in order to reduce such sources or causes if they are going to help them have a high level of reading comprehension.

Furthermore, EFL teachers are recommended to inform EFL learners of the importance of their choice of vocabulary learning strategies and reading strategies in reducing their level of reading anxiety and also do their best in identifying those EFL learners who rarely use reading strategies and vocabulary learning strategies and help them in this respect, accordingly diminishing their level of reading anxiety. In other words, EFL teachers are expected to teach and encourage EFL learners on how to use various reading strategies and also how to choose applicable vocabulary learning strategies and take the maximum benefit of such strategies in the

process of their language learning and reducing their reading anxiety. In this way, EFL learners can distinguish what kind of reading and vocabulary learning strategies are effective for their language learning in general and lessening their reading anxiety in particular.

When it comes to EFL learners, the findings of the present study can function as an informing tool regarding the crucial role of EFL learners' reading strategies and vocabulary learning strategies and the extent to which such strategies may reduce reading anxiety. This means that if EFL learners improve and nurture their use of different reading and vocabulary learning strategies, they may become more focused and attentive in their reading process in general and reduce their reading anxiety in particular.

EFL syllabus designers and material developers are also the beneficiaries of this study. The findings of the present study can help syllabus designers and materials developers to grasp a better picture of EFL learners' choice of vocabulary learning strategies, reading strategies, reading anxiety levels, and their potential associations with each other. Besides, with the aim of serving EFL learners to develop their reading strategies and vocabulary learning strategies, producing a curriculum that essentially supports and fosters EFL learners' consciousness of the use of various reading and vocabulary learning strategies becomes critically significant. In addition, EFL syllabus designers and material developers may aim to design and compile the curricula and materials in a way that EFL learners become qualified users of various reading strategies and vocabulary learning strategies and accordingly handle their reading anxiety much better.

Considering the focus, design, and limitations of this study, other researchers are recommended to replicate this study by employing an equal number of males and females, so that gender might not act as an intervening variable. Moreover, the age range of the participants in this study was 24 to 39, and other studies can focus on other age groups. Also, other studies may attempt to include the EFL learners in private language schools in the sample since the researchers did not have access to this group of EFL learners. Another recommendable idea is employing some qualitative instruments in order to increase the validity and reliability of the results and interpretations. Finally, other researchers may employ pure/simple random sampling while replicating this study in order to enhance the validity of the findings.

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