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Mapping Reading Anxiety on Reading Strategy Uses among Iranian Students with Diverse Proficiency Levels

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Abstract

The present study was an attempt to determine a relationship between foreign language reading anxiety and reading strategy use among a group of EFL Iranian readers (no = 100) with low vs. high proficiency levels. To this end, FLRAS (Foreign Language Reading Anxiety Scale) developed by Saito, Horwitz, and Garza, (1999) was used in order to measure the participants' level of anxiety in reading and SORS (The Survey of Reading Strategies) adapted from Mokhtari and Sheorey (2002), was utilized to gauge the participants' strategy uses. The students' responses to reading strategies when faced with anxiety-provoking contexts were categorized into three strategy uses including 'global', 'problem solving' and 'support' and mapped on their total scores in reading anxiety. The results from Multinomial Logit Regression (MLR) showed that the students with lower level reading anxiety indices would adopt problem solving strategies more compared with support and global strategies. Regarding the interaction of proficiency level in the process, the results showed that it was less probable for the students with lower reading anxiety levels to adopt problem solving strategies compared with more anxious students who would adopt global strategies. Some possible implications are discussed in the light of improving reading instructions provided for Iranian students.

Keywords: strategy use, reading strategies, top-down reading anxiety, bottom-up reading anxiety

Introduction

By prospect, in reading a text in another language (here, English), as one major skill in English as a Foreign Language (EFL) contexts, for those who are worried about reading in front of others, EFL scholars have considered many psychological reasons. In recent years, one crucial related factor has been termed as "reading anxiety" in dealing with foreign language texts (Horwitz, 2001). Like test anxiety, foreign language reading anxiety (FLRA) is reported to differ from general foreign language anxiety and influence reading comprehension as well as reading processes (Saito, Horwitz, & Garza, 1999; Sellers, 2000).

Within the realm of anxiety in EFL contexts, many researchers have mainly focused on the impact of learners' characteristics on language learning such as their attitudes (e.g., Wenceslao, 1991, cited in Mohammadi, Biria, Koosha & Shahsavari, 2013), self-concept, self-efficacy and self-perception (e.g., Brown, 2007; Chapman & Tunmer, 2003; Kitano, 2001etc.), self-esteem (Kramsch, 2008), the effect of gender, nationality, and first language experience on classroom anxiety (Machida, 2001), apprehension of negative evaluation and higher level of anxiety (Kitano, 2001), the relationship between affective factors and anxiety links with language proficiency (Gardner, Smythe, & Brunet, 1977; MacIntyre & Charos, 1996; Yamashiro & Mclaghlin, 2001; Yashima, 2002), risk-taking and motivation, as predictors of language achievement and anxiety (Samimy & Tabuse (1992) as well as motivation and reading anxiety (Zarei, 2014; Yihong, Yuan, Ying & Yan, 2007) among others.

Among the studies, Oxford and Lee's study (2008) on the positive relationship between strategy awareness and strategy use, Liu and Chen's (2014) work on the interaction between strategy use, language anxiety and multiple intelligences, and Lien's (2016) research on the interaction between individual variables, language anxiety and metacognitive reading strategy use were more conspicuous.

Some other researchers have also provided a comprehensive overview of research into foreign language reading anxiety and other aspects of learners' variables such as their proficiency level, and gender among other variables in recent years (e.g., Dehbozorgi, 2012; Ghoorchaei & Kassaian, 2009; Kiani & Pournia, 2006; Michael, 1981; Negari & Rezaabadi, 2012; Sadighi et al., 2009; Saito, Horwitz, & Garza, 1999; Shojaee & Sahragard, 2012; Tsiplakides, 2009; Trang et al, 2012; Wu, 2011, etc.) as well as strategy use (Bacon, 1992; Cohen, 1998; McDonough, 1995; Singhal, 2001, etc.).

Regarding strategy use for anxious learners, Bacon (1992) defines strategy use to identify the metacognitive strategies used by students.

Strategy use is important for both language teachers and learners. It can play a central role in lightening the L2 teachers' burden since an awareness of these strategies can help language learners manage their own process of L2 learning and assist "shift the responsibility for learning off the shoulders of the teachers onto those of the learners" (Cohen, 1998, p. 2).

Singhal (2001) believes that reading strategies comprise skimming, scanning, contextual guessing, utilizing background knowledge, recognizing text structure etc. Since 1970s, affected by the cognitive perspectives of learning that considered language learning as a dynamic, creative process and the learner as an active method user and knowledge constructor, many ESL studies have changed their focus from teaching strategies to learners' proper use of strategies. In this regard, knowing which strategy types are used by more vs. less anxious learners as to reading anxiety can shed light over the gaps in the existing literature.

Katalin (2006) defines three types of anxiety based on various ways through which different researchers had approached this concept:

1) Trait Anxiety: Trait anxiety as a personality trait arises in response to a perceived threat, but it differs in its intensity, duration and the range of situations in which it occurs. Trait anxiety refers to the differences between people in terms of their tendency to experience state anxiety in response to the anticipation of a threat. People who have a high level of anxiety, experience more anxiety to certain situations than most people do and experience anxiety with a higher level of situations or objects than most people do. So, this type of anxiety shows a personality trait rather than a temporary feeling.

2) State Anxiety: It is an apprehension experienced at a particular moment in time.

3) Situational Anxiety: This type of anxiety is experienced in a well-defined situation that encompasses FLCA. Horwitz et al (1986) define FLRA, which is the main focus of the present research, as "…a different set of self-perceptions, ideas, sense and behaviors based on classroom language learning caused by the uniqueness of the language learning process" (p. 31). Another definition considered reading anxiety as "self-perceptions, beliefs, sense and traits" that is concerned with the feeling that learners experience (Jalongo & Hirsh, 2010; Young, 1998).

Reading comprehension is a complex construct that is composed of a number of components involving lower and higher level processes (Cain, Oakhill, & Bryant, 2004; Graesser, Singer & Trabasso, 1994; Hannon, 2012; Hannon & Daneman, 2001, 2006, 2009; Hannon & Frias, 2012;

McNamara & Magliano, 2009). Indeed, recent research suggests that reading comprehension is composed of:

(i) lower-level processes that identify and decode words (Cunningham, Stanovich, and Wilson, 1990),

(ii) higher-level processes that extract explicit information from text (Hannon, 2012), connect text-based ideas (i.e., text-based inferences Hannon and Daneman, 2001), establish text coherence by connecting or bridging text-based ideas with prior knowledge (Singer & Ritchot, 1996), and embellish the text using prior knowledge (e.g., thematic and predictive inferences: Hannon & Daneman, 1998; Long, Oppy & Seely, 1994), and

(iii) knowledge about learning (i.e., epistemic belief of learning: Hannon & Daneman, 2001).

Consequently, any one or a combination of these components might be a major source of learner differences in reading comprehension ability. Regarding anxiety on each of the three above-cited levels, during the two past decades, there are many studies. Language anxiety is defined in the literature as a distinct set of self-perceptions, beliefs, senses, and traits related to using a language for communication beyond the classroom (Hannon & Frias, 2012).

It cannot be denied that learning a language is important especially English language since it is the most widespread and important language in the current world (Horwitz, Tallon & Luo, 2010). Different scholars have looked at anxiety in different ways.

The findings of Marwan (2007) on Indonesian students' foreign language anxiety showed that most of the learners experienced a certain degree of anxiety in their language learning. Factors like lack of confidence, lack of preparation and fear of failing the class were the primary causes of anxiety. According to Horwitz, Horwitz and Cope (1986), foreign language education is a process, which involves learners' self- perceptions, beliefs, and behaviors particular to environments of foreign language learning.

To determine the correlation between different socio-psychological variables such as attitude, motivation, anxiety and instrumental orientation on performance in English as a second language a research was performed by Latif et al (2011). The results indicated that all of the four variables were significantly correlated with learners' performance in the English course.

Sellers (2000) found that learners with a high anxiety level used translation strategy directly while low-anxiety learners read the text more holistically and used more reading strategies.

Bialystok (1981), in her study on a group of grade 10 and 12 students learning French in Toronto, found that monitoring strategies and strategies for functional practice affected learning outcomes in a positive way as measured by achievement tests in writing, listening, reading and grammar. Studies carried on 1200 foreign language learners in the US by Oxford and Nyikos (1989) showed more strategy use was related to learners' higher perceptions of proficiency in reading, listening, and speaking.

Ehrman and Oxfords (1989, 1995) examined some optimal adult learners at the US Foreign Service Institute, which showed more strategy use among professional language educators than the students. Dreyer and Oxford (1996) examined Afrikaans university ESL majors that showed a significant positive relationship between strategy use and proficiency. The study of Jordan high school EFL learners by Kaylani (1996) showed that the use of memory, cognitive and metacognitive strategies was significantly more for successful students than less successful ones. Wharton's (1997) study on some 678 bilingual university students studying Japanese and French courses in Singapore showed that a significant correlation between strategy use and French/Japanese proficiency, with more successful learners employing more frequently the learning strategies than do poor proficiency learners.

Liu and Chen (2014) cited in their research many researchers including Mochizuki (1999) and Wu (2008) who had referred to the fact that high proficiency language learners used metacognitive strategies more frequently compared with other strategies.

Bremner (1999), in a study on Hong Kong English majors, concluded that out of the 50 specific strategies, 11 were significantly correlated with proficiency. Hoang (1999) concluded that more proficient learners used more strategies and more effectively than the ones at lower levels. Halbach (2000), in a study on analyzing diaries from 12 learners, reported that the participants who got more marks during their final term exam used strategies more frequently than did the less successful students. A study on university medical majors in China by Yu (2003) showed that learners' strategy use was significantly correlated with their listening proficiency. Shmais (2003), in a study on 99 university English majors in Palestine, showed that there was a significant memory strategy use difference between very good and good learners in favor of very good learners. Green (1991, cited in Bedell & Oxford 1996) examined 213 students of English and revealed that high proficient students used more strategies than lower proficient ones although a curvilinear pattern had been observed in their

research. In another study by Mullines (1992, cited in Bedell & Oxford, 1996) on 110 English majors in Thailand, the researchers failed to reveal any significant correlation between any of the three proficiency measures and strategy use they had correlated with certain strategy categories.

In effect, some researchers had demonstrated that the use of language learning strategies might be also be associated with the learners' proficiency in second language among other things (Green & Oxford, 1995; Wharton, 2000). In general, language learners who demonstrate a high proficiency level in second language significantly reported using more language learning strategies than lower-proficiency level learners (Green & Oxford, 1995; Park, 1997). In addition, more second language proficient learners employed a wider repertoire of strategies than lower proficient learners. Some research studies have found that specific kinds of strategies were prevalent among language learners at various levels of proficiency. For example, O'Malley et al. (1985) found that intermediate level students of second language tended to consistently use more metacognitive strategies than students at a beginning level proficiency of language learning.

Evidently, language learning strategies could be associated with language proficiency and performance (Shukri, Rahimi, Embi, & Zamri, 2008; Politzer & McGroarty, 1985). They have also started to specify the impact of learning strategy use on the learning of a second or foreign language (Abraham & Vann, 1987; Chamot, 1987; Cohen & Aphek, 1981; Hosenfeld, 1977; Wenden, 1991). They also showed that learners can be taught to learn the language if they are taught the methods that facilitate language acquisition.

Proper language learning strategies (LLSs) can lead to higher development, more self-confidence on the part of learner, and greater autonomy. They were specially focused on OMalley and Chamotts' (1990), Oxford's (1990), and Brown's (2000) learning strategies taxonomies.

Many studies have determined main areas of differences that can affect the selection and frequency of LLS use (Chang, 2003; Griffiths, 2003; Shukri, Rahimi, Embi, & Zamri, 2009; Lan, 2005; Macaro, 2001; OMalley & Chamot, 1990; Oxford, 1990; Rubin, 1975).

Matsuda and Gobel (2004) revealed that reading anxiety was positively related to proficiency. Despite the situation-specific feature of foreign-language anxiety (Arnold, 2007), Brantmeier (2005) warned that reading anxiety level was also affected by immediate- or post-reading activities. Generally speaking, the impact of foreign-language anxiety has been researched with respect to the reading domains; yet, how it affects reading

proficiency in relation to test anxiety is yet unexplored (Hou, 2009; Hsu, 2004; Sellers, 2000; Leow & Sanz, 2000).

Sellers (2000) explored the effect of FLRA on reading comprehension and processes by investigating how university students recalled reading texts at different levels and lengths. As a matter of fact, the students with high FLRA were expected to experience more task-irrelevant cognitive interference than those with lower FLRA. Thus, FLRA was concluded to affect reading comprehension.

Generally speaking, determining the factors that influence the learning and teaching procedures and trying to control for undesirable influences of such factors are recurrently among problematic phenomena in our educational contexts. In this study, an attempt was made to consider learner variables including language learners' strategy use typologies mapped on their reading anxiety to tap the interrelationship between the variables. In so doing, tapping the issue through correlational schemes could possibly illustrate the issue to see if anxiety is text or context-bound. Accordingly, this study aimed to bring possible responses to the following two questions:

RQ1: Can Iranian EFL learners' preferred reading strategies be predicted by their reading anxiety levels?

RQ2: Can proficiency level interact with strategy adoption mapped on the targeted EFL leaners' anxiety levels?

Method

Participants

The population selected for this study were some four hundred students (male and female) with an age range of 12-23 who attended two English institutes in a city in Khorasan Razavi Province of Iran. Through stratified sampling techniques applied on diverse proficiency levels (from lower-intermediate to highly advanced) and gender status (Male & Female) in the target setting, some one hundred students were recruited as samples in this research. In selecting language institutes, the researchers made an attempt to opt for schools that accommodated both genders (Male and Female) and were from both more and less affluent districts to secure the bias effects of the variables like socio-economic status of the context of study as well as gender effects. Then from the targeted schools, only classes that embraced students from lower intermediate, intermediate and advanced levels were selected. Their first language was Persian. To ensure that a homogeneous set of learners had been selected, apart from the placement tests administered by the language institutes, the interview profiles of the

participants after the placement tests by the language institutes were also checked. Next, the selected participants were assigned to high vs. low proficiency groups. Table 1 describes demographic information of the sampled participants in this research.

Table 1
Demographic Information of the Targeted Participants

Gender	*Freq.*	*Age*	*Freq.*	*Proficiency*	*Freq.*
Female	48	12-15	15	Lower-intermediate	18
Male	52	16-18	13	Intermediate	40
		19-21	17	Advanced	22
		+21	55		

Instrumentation

Two instruments were used in this study in line with the aforementioned aims to collect the data from the targeted participants:

A) FLRAS (Foreign Language Reading Anxiety Scale). It was originally developed by Saito, et al. in 1999 in order to measure the participants' level of anxiety in reading.

FLRAS is a validated questionnaire which consists of 20 items with five-point Likert scales ranging from "strongly agree" to "strongly disagree". The students' self-reports of anxiety are elicited by this scale over various dimensions of reading, their target language reading perceptions, and their perceptions of the difficulty level of reading in their own language compared with the target language. The score ranges of the FLRAS are from 20 to 100. Lower scores in this questionnaire indicate lower Reading Anxiety (RA) and higher scores indicate higher RA. Saito et al. reported that the FLRAS has shown an acceptable reliability index with an internal consistency coefficient of .86 among 383 participants.

Hsu (2004) used the Chinese version of FLRAS from Huang's study (2001), and reported the internal consistency of the translated scale as .81 (n = 114). In the present study, Huang's adapted version of the FLRAS was also used. It showed internal reliability with an internal consistency coefficient of .82 (Cronbach's alpha), which is in accord with the findings of previous studies (Saito et al. 1999, as cited in Ghonsooly, 2010).

This scale was translated into Persian. The translated version was evaluated by two experts with MA and PhD degrees in TEFL through back translation to ensure the propositions in the two English and Persian versions were equal. Some problems regarding the content of the items and their wordings were amended.

The translated version was piloted among 32 subjects. In order to verify the reliability of FLRAS in this research, Cronbach Alpha was run in SPSS, which showed a high index (α .93) among all items (n =27). This questionnaire also had three subscales including 1) Top-down reading anxiety (Question no. 1-7), 2) Bottom-up reading anxiety (Question no. 8-21), and 3) Classroom reading anxiety (Question no. 22-27). Alpha for each subscale was also calculated separately which was .78, .89 and . 84 respectively.

B) The Survey of Reading Strategies (SORS)

Regarding strategy adoption by the sampled learners, English translation of SORS was adapted from Mokhtari and Sheorey (2002) and translated into Persian as well. This questionnaire has been categorized into three parts including global, problem solving and support strategies. SORS includes a 30-item questionnaire on the reading strategy use and has been frequently validated among diverse participants. This questionnaire also uses a 5-point Likert scale which ranges from 1= 'I never do this' to 5= 'I always do this.' The original authors outlined in their study that the SORS instrument measures three broad categories of strategies. These categories are: (1) the Global Reading Strategies (GLOB) which can be thought of as generalized strategies aimed at setting the stage for the reading act, are "those intentional, carefully planned techniques by which learners monitor and manage their reading, such as having a purpose in mind, previewing the text as to its length and organization, or using typographical aids and tables and figures" (Mokhtari & Sheorey, 2002); (2) the Problem Solving Reading Strategies (PROB), which are localized, focused problem-solving or repair strategies used when problems develop in understanding textual information; and (3) the Support Reading Strategies (SUP) which provide the support mechanisms or tools aimed at sustaining responsiveness to reading (Mokhtari & Sheorey, 2002). This instrument has been field-tested extensively with diverse student populations including native and non-native speakers of English and was found to have well-established psychometric properties including validity and reliability data (Alpha = .93) which are described in Mokhtari and Reichard (2002).

In this study, with regard to examining the reliability of the reading strategy questionnaire, each three sub scale was measured separately. The alpha for Global Reading Strategies (Questions no. 1-12) was .86 for the Problem Solving Reading Strategies (Questions 13-19) . 83 and for the Support Reading Strategies (Questions no. 20-28), the index was. 81, which all showed a high index in each case.

Procedures

The current study was conducted in two stages. In the first stage, two questionnaires of FLRAS and SORS were distributed among the participants at the researchers' presence without any time limitation for the completion of the questionnaires. The participants were informed about what they were supposed to do in the study. The study was conducted during one of the class meetings with the agreement on the part of the instructors and the manager of the two institutes. For ethical reasons, the participants were ensured that their identities were not disclosed. After collecting the required data and assigning scores to the participants' responses to the two questionnaires, the data were submitted to SPSS statistical package ver. 23 and a number of descriptive and inferential analyses were conducted as in the following.

Results

The scores gained from SORS and FLRAS questionnaires were used to answer the two suggested research questions to clarify if there was any relationship between the participants' strategy use with three levels as the dependent variable and the degree of reading anxiety they experienced and to examine if proficiency could interact in the process to mitigate the results. Since there were three categorical levels for strategy use (global, problem-solving and support reading strategies) against the reading anxiety as an independent variable in this study, Multinomial Logistic Regression (MLR) was used to test the null hypothesis. MLR, which is also known as 'multinomial regression' is used to predict nominal dependent variables given on one or more independent variables through logit equations. The estimated equation that could best predict the probability of the value pertained with the reading strategy types as a function of the *X* variable (here, reading anxiety scores) let the researcher find out the degree of the relationship between the two variables.

Initially, in order to determine the normal distribution of the scores coming from FLRAS and SORS, Kolmogorov-Smirnov Test was run in SPSS. Tables 2 and 3 below display the results for the normal distribution of the FLRAS scores.

Table 2
One-Sample Kolmogorov-Smirnov Test for FLRAS

		Reading Anxiety
N		83
Normal Parameters[a,b]	Mean	2.5743
	Std. Deviation	.59895
Most Extreme Differences	Absolute	.050
	Positive	.048
	Negative	-.050
Test Statistic		.050
Asymp. Sig. (2-tailed)		.200[c,d]

In table 3, the SORS scores are presented.

Table 3
One-Sample Kolmogorov-Smirnov Test for SORS

		Reading
Normal Parameters[a,b]	N	79
	Mean	3.4010
	Std. Deviation	.74317
Most Extreme Differences	Absolute	.090
	Positive	.045
	Negative	-.090
Test Statistic		.090
Asymp. Sig. (2-tailed)		.174[c]

As clear in Tables 2 and 3, the distribution of the scores for both questionnaires was normal ($p>.05$). Accordingly, parametric tests could be used for running the statistical methods in each case where the scores from FLRAS and SORS were focused.

To reiterate, this study primarily aimed to bring possible responses to the following two questions:

1. Can Iranian EFL learners' preferred reading strategies be predicted by their reading anxiety levels?
2. Can proficiency level interact with strategy adoption mapped on the targeted EFL leaners' anxiety levels?

Regarding the first research question in this study as to the significant relationship between Iranian EFL learners' preferred reading strategies and their anxiety levels, MLR was used. Table 4 below shows descriptive statistics regarding initial case summary information for the subjects.

Table 4
Case Processing Summary for the Students' Kind of Reading Strategy Use and their Reading Anxiety Scores

	Reading strategy	Cases				Total Anxiety Scores
		Valid		Missing		
		N	Percent	N	Percent	
Total	Global	23	74.2%	8	25.8%	69.52
	Problem	41	83.7%	8	16.3%	68.03
	Support	19	95.0%	1	5.0%	72.57
		83		17		

In order to check differences between the three groups above with different reading strategy uses (global, problem solving and support), the results from MLR were used to describe data and to explain the relationship between the students' reading strategy uses as a dependent nominal variable with three levels and their reading anxiety scores as changed to ordinal scales (High vs. Low) as the independent variable. Table 5 below displays the results of Coefficient parameters in this regard.

Table 5
Parameter Estimates for Anxiety Levels vs. Strategy Use

Strategy		B	Std. Error	Wald	Df	Sig.	Exp(B)	95% Confidence Interval for Exp(B) Lower Bound	Upper Bound
Global	Intercept	.368	.434	.719	1	.396			
	[anxlevel=1.00]	-.368	.623	.348	1	.555	.692	.204	2.347
	[anxlevel=2.00]	0[b]	.	.	0	.	.	.	.
Problem	Intercept	.693	.408	2.883	1	.090			
	[anxlevel=1.00]	.140	.557	.063	1	.802	1.150	.386	3.426
	[anxlevel=2.00]	0[b]	.	.	0	.	.	.	.

a. The reference category is: Support.
b. This parameter is set to zero because it is redundant.

As clear in Table 5, B indices for global strategy as compared with support strategy as a constant reference category, showed that regarding those students with lower anxiety, as B Coefficient (-.368) was less than zero, it could indicate that, it was less probable for the low reading anxiety groups to take global strategies compared with support. Regarding the second strategy, that is, problem solving, this was reverse, though. The students with lower level reading anxiety since B for the lower group showed a positive score (B= .140), it was more likely that students with lower reading anxiety to adopt problem solving vs. support strategy. This was also fortified with the EXP (B) result as to the problem solving strategy use. Since the EXP (B) coefficient for the lower level students in reading anxiety was also more than zero (B=1.15), it could be concluded that it was more likely that the students with lower level reading anxiety indices would adopt problem solving compared with support strategies. With regard to problem solving strategy as compared with global strategy, another MLR was run replacing the reference category with problem solving strategy. The results from parameter estimates tables showed a negative value (B= -.507) among the students with lower anxiety level which could prove that it was less probable for the lower level anxiety group to opt for global strategies as compared with problem solving strategy. This could indirectly prove that the students with higher proficiency in reading had benefitted from global reading strategies. For transparency reasons, Table 6 below also displays the overall frequency counts for all three strategy types in the two anxiety groups.

Table 6
*Strategy * Anxiety Level Cross Tabulation*
Count

		Anxiety level		
		low anxiety	high anxiety	Total
Strategy	Gl	10	13	23
	PS	23	18	41
	S	10	9	19
Total		43	40	83

Note: Gl: Global strategies, PS strategies: Problem Solving strategies, S: Support strategies.

Figure 1 below also displays the variability of the raw frequency counts for the reading strategy adoption as mapped on the students' anxiety levels.

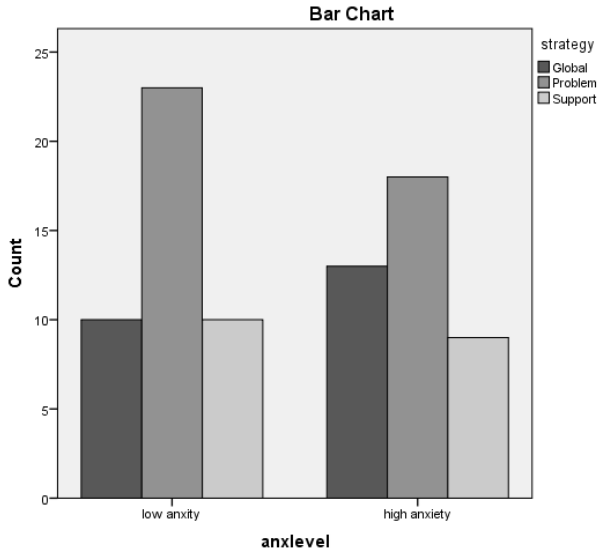

Figure.1 Frequency Counts of Students' Reading Strategy Adoption Mapped on their Reading Anxiety Levels

Concerning the second research question, as to the significant interaction for the students' reading proficiency level for the degree of reading anxiety mapped on their strategy adoption, further analyses were run within MLR. Table 7 below first displays descriptive statistics for the sampled participants' self-reported reading proficiency level mapped on their 'on the spot' reading anxiety scores from FLRAS. In this

questionnaire, the lower scores in this questionnaire indicated a more optimum condition with lower RA while the higher scores indicated more severe cases regarding reading anxiety.

Table 7

Descriptive Statistics for the Participants' Reading Proficiency Level and Reading Anxiety

	Reading proficiency level	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Total Reading anxiety Score	Low	12	85.7	2	14.3%	14	100.0%
	Mid	47	87.0	7	13.0%	54	100.0%
	High	21	80.8	5	19.2%	26	100.0%
	Very high	2	50.0	2	50.0%	4	100.0%

As seen in Table 7, the total reading anxiety score among students with lower reading proficiency was 85.7, within the students with medium proficiency levels, about 87, among more highly proficient students, it was 80.8, and finally among the students with "very high" reading proficiency levels, the total RA score was 50. Figure 2 shows a bar chart regarding the raw distribution of the reading proficiency levels in each cell over the students' reading strategy adoption.

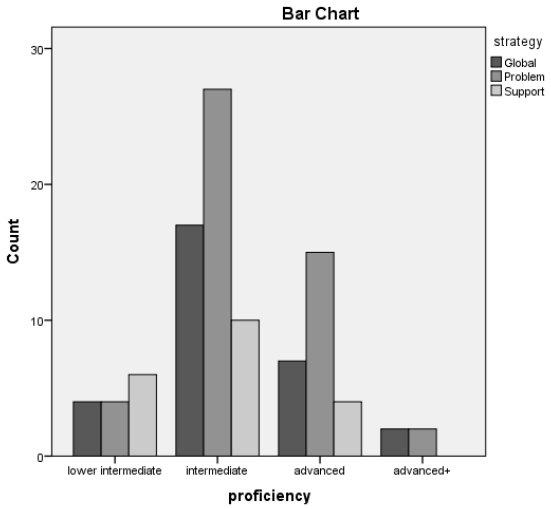

Figure. 2 Frequency Counts of Students' Reading Strategy Adoption Mapped on their Reading Anxiety Levels

As seen in Fig 2, within lower intermediate students, the proportion of students who had chosen support strategies were more compared with global and problem solving strategies. This pattern was a little bit different among intermediate students in a way that problem solving strategies prevailed over the other two strategies. This was also same among advanced students.

In order to find the significant differences between and among the groups (students' anxiety levels & strategy adoption with the interaction of reading proficiency), MLR was run. Table 8 shows the initial results with support strategies as a constant reference. There were again two levels for anxiety (low vs. high) coded as ordinal scales, which were incorporated into the tests. For reading proficiency, four levels ranging from lower intermediate to highly advanced students were assigned codes from I to 4.

Table 8
Parameter Estimates for Anxiety Levels vs. Strategy Use with the Interaction of Proficiency levels

Strategy		B	Std. Error	Wald	Df	Sig.	Exp(B)	95% Confidence Interval for Exp(B) Lower Bound	Upper Bound
Global	Intercept	-1.077	1.048	1.056	1	.304			
	Proficiency level	.762	.504	2.281	1	.131	2.142	.797	5.756
	[anxlevel=1.00]	-.521	.644	.656	1	.418	.594	.168	2.098
	[anxlevel=2.00]	0[b]	.	.	0	.	.	.	.
Problem	Intercept	-1.498	.981	2.329	1	.127			
	Proficiency level	1.132	.467	5.880	1	.015	3.102	1.242	7.745
	[anxlevel=1.00]	-.215	.591	.132	1	.716	.807	.253	2.568
	[anxlevel=2.00]	0[b]	.	.	0	.	.	.	.

a. The reference category is: Support.
b. This parameter is set to zero because it is redundant.

As seen in Table 8, regarding global vs. support strategies and problem solving vs. support strategies, B indicated a negative value supporting the fact that with the introduction of the proficiency level, it was less probable for the low anxiety level students to adopt global and problem solving strategies. Regarding global strategy as compared with problem solving a re-run analysis of MLR showed that B coefficient was negative (B = -.307),

which could reveal that with the interaction of proficiency level, it was less probable that the students with lower reading anxiety levels adopt global vs. problem solving strategies. This was in contrast with the time when the interaction of proficiency level was absent for comparing global vs. problem solving strategies as Figure 1 displayed in the low anxiety group. This could show among other things that as their reading proficiency level went high, the students could have prospectively take more benefit from carefully planned procedures as typical in global as well as problem solving strategies rather than support strategies. In other words, one could claim that the students with lower levels of reading anxiety were probably less concerned with meta-cognitive strategies as such. In this way, learners could monitor and manage their processes of reading while this did not happen to occur when anxiety went lower aligned with having more momentum in English by being more proficient.

Discussion

The present study was intended to investigate whether or not there was any significant relationship between foreign language reading anxiety and strategy use with the interaction of reading proficiency. Concerning the first research question, the findings showed that in three by three comparisons, remarkably, problem solving strategies in two cases (support vs. problem solving & global vs. problem solving) had been more in use among the lower level anxiety group as compared with the students with higher reading anxiety levels. With regard to support strategies which were more in use by the lower level students as compared with global strategies, a critical point could be deduced in that in support strategies, since basic mechanisms *intended to aid the reader in comprehending the text such as using a dictionary, taking notes, underlining, or highlighting textual information* were expected to occur, it was probable that since more anxious students were probably more concerned with texts vs. beyond text features, this set of strategies had been more in use among more anxious readers due to their challenges with lower level aspects of a text such as unfamiliar words, complex sentences etc. This could also be somehow discussed in the light of the second research question in this study which examined the interaction of reading proficiency in the process. In this study, it was discovered that that regarding global, support and problem solving strategies, it was less likely for the low anxiety level students to adopt global and problem solving as compared with support strategies. This was in contrast with the time when the interaction of proficiency level was absent for comparing the intended strategies. This proved that with the interaction of reading

proficiency, lower anxious students tended to use support strategies in which basic support mechanism for comprehending the text was in use through using aids such as dictionaries, taking notes, underlining, or highlighting textual information etc. This was in line with Zhang and Wu's study among 249 Chinese students (2009, cited in Zarei, 2014) in that the students with higher level students in terms of overall achievements had benefited from global strategies compared with other two strategies in which lower level aspects of a text are cared for.

The findings in the first phase of the study in the present research were in agreement with Song's research (2010), who uncovered that reading anxiety could affect learners' reading processing in terms of their strategy use and cognitive interference. In Song's research, it was found out that highly anxious students were more inclined into using local strategies while less anxious students tended to employ global strategies and background knowledge strategies. In Ghonsooly and Loghmani's research (2012), this was in reverse in that the main difference between the two low vs. high anxiety groups was in their global reading strategy use in which lower anxiety group had significantly used global strategies more often compared with more anxious group. Regarding using problem-solving strategies among low reading anxiety group, the results in the present research was not the same with Ghonsooly and Loghmani. Conversely, in another Iranian context, Shabani (2015) had found out that the participants in his study had exhibited average levels of foreign language anxiety, having used all strategy categories, though with more reports over metacognitive strategies. Dreyer and Nel (2003, cited in Lu & Liu, 2015) had also mainly reported using metacognitive strategies such as planning by at-risk readers.

With regard to reading proficiency as displayed by its interactive effect on reading strategy use in the present study, both self-perceived and actual proficiency had been gauged and based on the two tests, tendency towards more uses of a certain strategy (here, Support) was proved among readers with lower anxiety. In the existing literature, Liu's study (2013) was interesting in which it had been claimed that '*language anxiety seems to have a greater influence on the strategy use frequency rather than on strategy choice'* (p.76). In Liu's study, it was shown that only effects of language anxiety and perceived competence on learning strategy use was significant and not their actual language proficiency. This could be conspicuous in that students' sense of self-evaluation of their proficiency level could be even more prominent for choosing a certain strategy. On the other hand, in another study by Lien (2016), self-perceived English level by a group of Taiwanese students and their due satisfaction with reading

proficiency was surveyed regarding their strategy use via the direct and indirect effect of foreign language reading anxiety. It became evident that there was no relationship between self-evaluation of reading proficiency and students' academic level and their perceptions of their reading proficiency level. Nevertheless, students' satisfaction had a direct influence over the students' foreign language reading anxiety, though this was not the case with their metacognitive awareness of reading strategies.

To sum up, although the findings reported in the present study are theoretically relevant, there exist certain limitations that must be kept in mind with regard to the interpretations. It should be mentioned that the population selected for this study were all the students who attended only two English institutes in Khorasan Razavi, Iran. Next, the selected participants were assigned to diverse proficiency groups according to their proficiency levels both through self-reported and the institute language level tests. Based on the findings of this study, the researcher could maintain that teachers should pay attention to both affective and cognitive sides of reading comprehension namely, readers' psychological as well as personal variables, and do not limit themselves to just one aspect of reading comprehension each time they are involved in teaching the skills to the learners. Furthermore, no data were gathered on motivation, aptitude, previous language learning instruction, and cultural aspects. The present sample comprised two classes, with different instructors, teaching method, and text books. These variations could render the results of the present study less applicable to Persian students in a larger public. Maybe further research clarify the complexities involved in this regard.

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