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Iranian EFL Learners' Reflectivity/Impulsivity Styles and their Metacognitive Awareness of Reading Strategy Use across Gender

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Abstract

The present study aimed to examine the possible relationship between Iranian intermediate EFL learners' reflectivity/impulsivity and their metacognitive awareness of reading strategy use across different genders. To this end, 95 Iranian English learners majoring in Teaching English as a Foreign Language (TEFL) from Islamic Azad University of Ardabil, Iran were considered as the participants. Initially, they were given the reading part of PET test to ensure their homogeneity in terms of reading proficiency. Then, the participants were asked to complete a questionnaire (MARS), designed to measure the students' metacognitive awareness of reading strategy use. Finally, a reflectivity questionnaire was used to measure the participants' reflectivity. The results of the Pearson Correlation analysis indicated that there was a relationship between the participants' reflectivity/impulsivity and their metacognitive awareness of reading strategy use. That is, the reflective participants were more metacognitively aware of their reading strategy use (positive correlation) as compared to the impulsive ones who were metacognitively less aware of their reading strategy use (negative correlation). In particular, it was found that the more reflective male/female learners are, the more they become metacognitively aware of their reading strategy use.

Key Words: reflectivity, impulsivity, EFL learners, metacognitive awareness, reading strategy use

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چکیده فارسی:

هدف از تحقیق حاضر بررسی رابطه احتمالی بین آگاهی فراشناختی دانشجویان پسر و دختر آموزش زبان انگلیسی سطح متوسط که فکورانه عمل می‌کنند و آنان که با محرک آنی عمل می‌نمایند از کاربرد استراتژی خواندن می‌باشد. بدین منظور ۹۵ نفر از دانشجویان آموزش زبان انگلیسی دانشگاه آزاد اسلامی اردبیل بعنوان شرکت کنندگان اولیه در نظر گرفته شدند. نخست جهت اطمینان از همگن بودن شرکت کنندگان از نظر خواندن بخش خواندن امتحان پت به آنها داده شد. سپس از شرکت کنندگان خواسته شد پرسشنامه مارسسی را جهت بررسی آگاهی فراشناختی دانشجویان از کاربرد استراتژی خواندن آنها پر کنند. در نهایت پرسشنامه دیگری جهت تمیز دانشجویانی که فکورانه عمل می‌کنند و آنان که با محرک آنی عمل می‌نمایند توسط شرکت کنندگان پر شد. نتایج آنالیز همبستگی پیرسون نشان داد که رابطه ای بین عملکرد آنی و عملکرد فکورانه دانشجویان و آگاهی فراشناختی آنها از کاربرد استراتژی خواندن در میان دانشجویان دختر و پسر وجود دارد. بدین معنا که دانشجویان فکور بیشتر از دانشجویانی که با محرک آنی عمل می‌کنند از کاربرد استراتژی خواندن خود آگاهی فراشناختی دارند (همبستگی مثبت). بویژه نتیجه تحقیق نشان داد که هر چه دانشجویان دختر و پسر هردو فکورانه تر عمل می‌کردند آگاهی فراشناختی آنها از کاربرد استراتژی خواندن بیشتر بود.

واژگان کلیدی: عملکرد فکورانه، عمل با محرک آنی، آگاهی فراشناختی، کاربرد استراتژی خواندن

1. Introduction

One of the differences between learners is the difference between their cognitive styles, for example, reflectivity and impulsivity. As Brown (2000) states, impulsivity is a person's quick answer to a problem while reflectivity is a person's slower and more calculated answer to a problem. According to Kagan (1965), reflectives make fewer errors in reading than impulsives; Doron (1973) also asserts that reflectives are slower but more accurate than impulsives in reading.

There are some students who read fluently but do not understand what they have read. This problem may be due to the students' lack of knowledge of their cognitive styles and metacognitive awareness of reading strategy use. But, learners need to know what kind of cognitive styles they use while they are reading. They also need to become conscious about different reading strategies. On the other hand, teachers also should be aware of their learners' differences in terms of their cognitive styles, gender, and metacognitive awareness as they call for various methodologies. According to Cohen and Dornyei (2001), learners are not empty vessels that must be filled by good words of teachers. There needs to be some kind of correspondence between the teacher's teaching method and the techniques used and the students' learning styles.

Although, an enormous amount of time, money and effort in Iranian schools and even in universities is spent on teaching reading, most of students are not able to comprehend what they read. In reading classes, they can neither skip unknown words nor tolerate the ambiguity and their background knowledge is of no practical use (Reza pour, 2009). As a result, Iranian students are falling behind students in developed countries on various measures of academic achievement, and in particular, on measures of reading comprehension. This problem may be due to teaching English through the traditional Grammar-Translation Method (GTM) in some Asian countries including Iran (Pritchard, & Nasr, 2004; Iranmehr, Erfani, & Davari (2011). Among the shortcomings of GTM, its lack of concern with cognitive principles (Chastain, 1988) leads to the inability of students to develop some strategies required in reading comprehension. This might be the worst drawback that decreases its efficiency which, according to Fuertes-Olivera and Gomez-Martinez (2004), assigns a passive role to learners who do not participate in class activities. Therefore, learners need to know what kind of cognitive styles they use while they are reading because as Brown (2000) stated:

It is common for us to show in our personalities certain tendencies toward reflectivity sometimes and impulsivity at other times. Psychological studies have been conducted to determine the degree to which, in cognitive domain, a person tends to make either a quick or gambling (impulsive) guess at an answer to a problem or a slower, and more calculated (reflective) decision. (p.121)

Therefore, the significant of this study is on valuing learners' individuality because being aware of the learners' cognitive styles, and metacognitive awareness of reading strategy use and the relationship that may exist between these characteristics of the learners enable the language teachers to modify their way of teaching and expectation from students, and to select the most appropriate reading materials to be used in second language classroom. Furthermore, the results of this study might be of great value for syllabus designers, because when preparing and designing reading materials they could take into account at every stage of designing a syllabus the learners' differences regarding their gender, cognitive styles, and metacognitive awareness.

On the other hand, the investigation of the relationship between impulsivity/reflectivity as cognitive styles and reading comprehension in L1 and L2 has attracted the attention of many researchers of the field (e.g., Piruznia, 1999; Salimi, 2001). However, most of these studies have focused on the relationship between reflectivity/impulsivity as cognitive styles and

reading comprehension holistically (e.g. Piruznia, 1999; Salimi, 2001; Walczy & Hall, 1989), and have not attempted to investigate their relationship with readers' metacognitive awareness of reading strategy use across different genders.

Regarding the EFL context of Iran, although there are distinct studies regarding metacognitive awareness, reading strategy use, and learners' reflectivity/ impulsivity, to the best of researchers' knowledge, no work like the present study has been conducted in Iran to investigate the relationship between Iranian EFL learners' reflectivity/impulsivity and their metacognitive awareness of reading strategy use across different genders. Accordingly, the purpose of the present study was to fill this gap and to investigate the possible relationship. More precisely, the following null hypotheses were formulated:

1. There is no significant relationship between Iranian female EFL learners' reflectivity and their metacognitive awareness of reading strategy use.
2. There is no significant relationship between Iranian female EFL learners' impulsivity and their metacognitive awareness of reading strategy use.
3. There is no significant relationship between Iranian male EFL learners' reflectivity and their metacognitive awareness of reading strategy use.
4. There is no significant relationship between Iranian male EFL learners' impulsivity and their metacognitive awareness of reading strategy use.

2. Review of the Related Literature

There has been growing interest in the application of metacognition to the study of L2 learners (Chamot, 2005; Sinclair, 2000; Zhang, 2001). For example, Shapiro and Niederhauser (2004) stated that the active involvement of the reader in the reading process requires metacognitive strategies like deciding on what to read and the sequence of reading as well as the basic lower level strategies such as decoding words and higher-level strategies like using prior knowledge. According to Houtveen and Van de Grift (2007), metacognitive strategy is a process which helps students to apply strategies in their learning.

It has been widely acknowledged in the literature related to English in L1 and L2 reading that greater metacognitive awareness of learners leads to better reading comprehension, and that less successful readers can develop their reading skill via training (Carrell, 1989; Mokhtari & Perry, 2008; Mokhtari, Sheorey & Reichard 2008). From a metacognitive view, a good reader is a person who modifies the process of reading and uses strategies according to the textual demands (Pressley & Afflerbach, 1995).

According to Auerbach and Paxton (1997), metacognitive awareness is knowledge about the proper actions one takes to achieve a particular purpose. When applied to reading, it can be defined as "the knowledge of the readers' cognition relative to the reading process and the self-control mechanisms they use to monitor and enhance comprehension" (Sheorey&Mokhtari, 2001, p. 432). Moreover, as (Kuhn, 2000) states, when we refer to the metacognitive awareness during the reading, readers should have awareness and control for understanding of a text. Readers with metacognitive awareness are able to focus on the text and at the same time on their reading processes, as a result they can check if their reading is resulting in understanding and knowing how to deal with comprehension breakdowns or not (Paris & Winograd, 1990).

Meanwhile, reflectivity and impulsivity are two characteristics of human beings in cognitive domain which has been recognized to be in relation with language learning process (Kagan, 1976). According to Kagan (1976), reflectivity refers to the tendency to collect and evaluate information previous to decision making, which is in contrast with "the tendency to make an impulsive selection of a solution" (Kagan, 1965, p.609). It has commonly been found that the impulsive who habitually makes a quick decision in a situation of uncertainty may be a less successful learner than the reflective who takes time to work things out (e.g., Kagan, 1965; Doron, 1973). Also, Brown (2007) states that learners' preferences and tendencies play a great role in language learning and students who are visual, field dependent, holistic, or reflective can perform some kinds of learning tasks or activities better than students who are auditory, field independent, analytic, or impulsive.

Different studies have been carried out on reflectivity / impulsivity, metacognitive awareness and reading strategy use. For example, Kagan (1965) found a positive relationship between success in various forms of reading skill and reflectivity among first and second grade children. Kagan (1965) also found that children who are reflective make fewer errors in reading than impulsive ones.

Razmjoo and Mirzaei (2009) investigated the relationship between reflectivity/ impulsivity and language proficiency among Iranian EFL university learners. Their results indicated there is no relationship between the variables of the study.

In another study, Ghapanchi and Dashti (2011) investigated the relationship between impulsivity and performance of the intermediate EFL university students on display, referential and inferential reading comprehension questions. Their results indicated that there was no

significant difference between Low, Medium and High impulsives and their performance in Display, Referential, and Inferential reading comprehension questions.

Talebi (2012) conducted a study to find out the relationship between reflectivity and the use of formulaic sequences in news summary writing. Fifty male and female university students completing their studies in Islamic Azad University of Tabriz for a BA degree in Teaching English as Foreign Language (TEFL) took part in the study. To ensure the participants' homogeneity in terms of language proficiency, Talebi used TOEFL test. Talebi used a reflectivity questionnaire (Cohen, Oxford, & Chi, 2001; Soloman & Felder, 2004) to assign the participants into two groups of impulsives and reflectives. Then, the participants were orally exposed to three-minute news, including 16 formulaic sequences such as idioms, phrasal verbs and collocations and the researchers asked learners to write a summary of each news. The results of the study indicated no significant difference between the reflective and impulsive participants in the use of formulaic sequences.

In addition, Mahdavinia and Molavizade (2013) attempted to investigate the relationship between reflectivity/impulsivity and the uses of idioms in composition writing among Iranian Advanced EFL learners. The results of their study showed that reflective learners used more idioms in their writings than impulsive ones.

Meanwhile, several empirical studies have illustrated positive relationships between the metacognitive awareness and reading success among university students. Carrell (1989) for example, conducted a study to investigate the relationship between a second language readers' metacognitive awareness and reading comprehension in both first and second language. The first groups were native speakers of Spanish learning English as second language in an intensive program and the second groups were native speakers of English learning Spanish as a foreign language. In order to evaluate the learners' metacognitive awareness, Carrell designed a self-report questionnaire, and in order to test learners' reading comprehension, he used two texts of English and Spanish. The results of the study showed a negative correlation between bottom-up reading strategies and reading performance. However, this correlation was positive for L2 learners, L2 learners of English at an advanced level used more top-down strategies but learners of Spanish at a lower level used more bottom-up strategies.

In order to measure the metacognitive awareness of reading strategies among adult native speakers of English while reading academic

texts, Mokhtari and Reichard (2002) designed Metacognitive Awareness of Reading Strategies Inventory (MARSI). The test had a factorial structure including the following factors: global reading strategies, problem solving strategies and support reading strategies. The overall score of the students demonstrated how often they use these strategies when reading academic materials. The MARSI is used for assessing students' overall metacognitive awareness of reading strategies or for evaluating which group of strategies are used most or least by the readers. In another study, to determine the effectiveness of direct instruction of metacognitive strategies on reading comprehension, Cubukcu (2008) conducted a study. The findings revealed positive effect of metacognitive strategy training on enhancing reading comprehension.

Although there are distinct studies regarding metacognitive awareness, reading strategy use, and reflectivity/impulsivity, to the best of the researchers' knowledge, no work has been conducted to investigate the relationship between Iranian EFL learners' reflectivity/impulsivity and their metacognitive awareness of reading strategy use across different genders. Accordingly, the purpose of the present study was to fill this gap and to investigate the possible relationship.

3. Methodology

3.1. Participants

The participants of this study were 95 intermediate university students including 55 females and 40 males completing their studies for a BA degree in TEFL in Ardabil, Iran. The age of the participants ranged from 19 to 28. To minimize the effect of proficiency factor of the learners on the reading performance, the researchers administrated the reading part of PET test. The researchers selected 70 learners out of 95 learners including 40 females and 30 males whose scores on this part of PET test were between one standard deviation above and below the mean as homogeneous participants in terms of reading proficiency.

3.2. Instruments

To collect data for this study, the researchers used two main instruments: The Preliminary English Test (PET) and two questionnaires including; Cohen, Oxford and Chi (2001) and Soloman and Felder's (2004) reflectivity questionnaire, which were adopted from Talebi (2012), and Mokhtari and Reichard's (2002) MARSI questionnaire.

3.3. Procedure

At the beginning of this correlational study, in order to test the participants' proficiency level in terms of reading, the researchers administrated a PET test including 35 questions of reading. The administration time was restricted to 45 minutes of the reading class, during which the researchers were present in the class to answer the students' questions, to provide assistance and to avoid misunderstanding. After correcting their answer sheets, the researchers selected 70 students including 40 females and 30 males, whose scores ranged between one standard deviation over and below the mean as the participants of the study. The participants were asked to fill out the MARSİ and the reflectivity questionnaires. The average administration time for each questionnaire was 30 minutes. During the administrations, the researchers were available to respond to the students' questions. Both questionnaires consisted of two parts: The first part concerned with the subjects' personal information including name, age and gender. The participants were asked to write this information in the provided spaces.

The second part had a different format in both questionnaires; the second part of MARSİ consisted of 30 items, with a 5-point Likert scale ranging from 1 (I never or almost never use this strategy) to 5 (I always or almost always use this strategy). The researchers explained that no negative point would be considered for the participants' wrong responses and encouraged them to answer the questions honestly by circling the appropriate responses in the questionnaires. For scoring, the researchers transferred the scores obtained for each strategy to the scoring sheet. After recording the individual scores, the researchers added them up to obtain learners' total score. Mokhtari and Reichard (2002) provided a key to interpreting for the whole inventory (Appendix A).

Then, to distinguish the impulsive learners from the reflective ones, the researchers used the reflectivity questionnaire. The reliability and validity of the questionnaire had already been computed by Talebi (2012). The second part of the reflectivity questionnaire consisted of 28 items, 17 items of which were two-option and the rest 11 items were yes-no questions. After calculating the mean of the participants' scores, the researchers considered the students whose scores were above the criterion score, that is, above 15/5, as the reflective learners and the ones whose scores were below 15/5 as the impulsive learners (See Appendix B).

Finally, in order to find the amount of the probable relationship between the participants' impulsivity/reflectivity and their metacognitive awareness of reading strategy use across different genders, the researchers

correlated students' scores on the MARSII questionnaire with their scores on the reflectivity questionnaire through Pearson Correlation analysis.

3.4. Data Analysis

To assess initial homogeneity of the participants in terms of their reading skill, the researchers calculated the means of the participants' scores; the students whose scores were one standard deviation over and below the mean were excluded from the study. In order to analyze the data and to find the amount of the probable relationship between the learners' impulsivity/reflectivity and their metacognitive awareness of reading strategy use, the researchers used Pearson Correlation analysis. The level of significance to accept or reject the null hypotheses was set at 0.05.

4. Results and Discussion

4.1. Results

The data gathered in this research were analyzed with regard to the proposed null hypotheses. However, initially the homogeneity of the participants in terms of their reading skill was checked.

4.2.1. The Preliminary English Test

At the beginning of the study, to determine the homogeneity of the participants in terms of reading skill, the researchers administered a reading test using the reading part of PET test, the total score of which was 35. The mean and standard deviation of the students' scores on this test were 24.52 and 5.76 respectively. The students whose scores in the reading part of PET test were between one standard deviation above and below the mean, that is, between 19 and 30, were selected as the research sample.

4.2.2. The Reflectivity Questionnaire

In order to distinguish the impulsive learners from the reflective ones, the researchers used Cohen, Oxford, Chi (2001) and Soloman and Felder' (2004) reflectivity questionnaire. The mean and standard deviation of the students' scores on the reflectivity questionnaire were 15.86 and 3.21 respectively. In order to obtain the median score on the reflectivity questionnaire, the researchers arranged the students' scores from low to high score. The middle scores were 15 and 16, thus, the mean score was 15.5. The students whose scores were above the mean were considered as the reflectives and the students whose scores were below the median were considered as the impulsives.

4.2.3. The First Null Hypothesis

The first null hypothesis stated that there is no significant relationship between the female participants' reflectivity and their metacognitive awareness of reading strategy use. In order to test this null hypothesis, the researchers correlated the homogenous female participants' scores on the reflectivity questionnaire with their scores on the MARSI questionnaire. The correlation coefficient between the female learners' reflectivity and their metacognitive awareness of reading strategy use is illustrated in Table 4.1.

Table 4.1. Correlation between Reflectivity and Metacognitive Awareness of Reading Strategy Use in the Female EFL Learners

		Female Meta	Female Ref
Female Metacognitive	Pearson Correlation	1	.737**
	Sig. (2-tailed)		.000
Female Reflectivity	Pearson Correlation	.737**	1
	Sig. (2-tailed)	.000	

Note. Meta =metacognitive awareness , Ref= reflectivity
 ** Correlation is significant at the 0.05 level (2-tailed).

As Table 4.1 presents, the correlation between the females' reflectivity and their metacognitive awareness of reading strategy use is large, positive and significant, $r = .74$, $p = .000 < .05$. Thus, the first null hypothesis stating that there is no relationship between Iranian female EFL learners' reflectivity and their metacognitive awareness of reading strategy use was rejected; this means that the more reflective females were, the more metacognitively aware they were of reading strategy use.

4.2.4. The Second Null Hypothesis

The second null hypothesis stated that there is no significant relationship between the impulsivity of the female EFL learners and their metacognitive awareness of reading strategy use. To test this null hypothesis, the researchers conducted another Pearson Correlation analysis. The results of the analysis between the female participants' scores on the impulsivity and their scores on the MARSI questionnaire are indicated in Table 4.2.

Table 4. 2. Correlation between Impulsivity and Metacognitive Awareness of Reading Strategy Use in the Female EFL Learners

		F impulsivity	F metacognitive
Female Impulsivity	Pearson Correlation	1	-.766**
	Sig. (2-tailed)		.001
Female Metacognitive	Pearson Correlation	-.766**	1
	Sig. (2-tailed)	.001	

Note. F= female
** Correlation is significant at the 0.05 level (2-tailed).

As displayed in Table 4.2. , the correlation coefficient between impulsivity and metacognitive awareness of reading strategy use in the female EFL learners is large, negative and significant because $r = -.76$, $p = .001 < .05$. Therefore, the second null hypothesis which stated that there is no relationship between the impulsivity trait of the female EFL learners and their metacognitive awareness of reading strategy use was also rejected. That is to say, the more impulsive females EFL learners were, the less metacognitively aware they were of reading strategy use.

4.2.5. The Third Null Hypothesis

The third null hypothesis of the present study stated that there is no significant relationship between the male participants' dimensions of reflectivity and their metacognitive awareness of reading strategy use. To examine this null hypothesis, the researchers carried out another Pearson Correlation analysis. Similar to reflective females, there was a statistically significant and large positive relationship between the male participants' reflectivity and their metacognitive awareness of reading strategy use. Table 4.3 represents the result.

Table 4. 3. Correlation between Reflectivity and Metacognitive Awareness of Reading Strategy Use in the Male EFL Learners

		M Reflectivity	M Metacognitive
Male Reflectivity	Pearson Correlation	1	.840**
	Sig. (2-tailed)		.000
Male Metacognitive	Pearson Correlation	.840**	1
	Sig. (2-tailed)	.000	

Note. M= male
** Correlation is significant at the 0.05 level (2-tailed).

Table 4.3 shows that the correlation coefficient between reflectivity and metacognitive awareness of reading strategy use in the male participants is large, positive and significant because $r = .84$, $p = .000$ which is smaller than 0.05. Obviously, the third null hypothesis proposing that Iranian male EFL learners' reflectivity do not have any significant relationship with their metacognitive awareness of reading strategy use was also rejected, meaning that, there was a positive relationship between the male participants' reflectivity and their metacognitive awareness of reading strategy use.

4.2.6. The Forth Null Hypothesis

The forth null hypothesis of this study asserted that there is no significant relationship between the male participants' impulsivity and their metacognitive awareness of reading strategy use. In order to test whether this relationship existed or not, similar to the three previous hypotheses, the researchers run the Pearson Correlation analysis between the male learners' impulsivity and their metacognitive awareness of reading strategy use, the result of which is summarized in Table 4.4.

Table 4.4. Correlation between Impulsivity and Metacognitive Strategy Use in the Male EFL Learners

		M Metacognitive	M Impulsivity
Male Metacognitive	Pearson Correlation	1	-.852**
	Sig. (2-tailed)		.000
Male Impulsivity	Pearson Correlation	-.852**	1
	Sig. (2-tailed)	.000	

Note. M= male

** Correlation is significant at the 0.05 level (2-tailed).

As Table 4.4 shows, the correlation coefficient between the impulsivity and metacognitive awareness of reading strategy use in the male EFL learners is large and negative ($r = -.85$) and also significant ($p = .000 < .05$). Thus, the fourth null hypothesis stating that there is no relationship between the male EFL learners' impulsivity and their metacognitive awareness of reading strategy use was also rejected. This means that as the impulsivity level of the male participants increased, their metacognitive awareness of reading strategy use decreased.

4.2. Discussion

The present study was an attempt to investigate whether there was a relationship between Iranian EFL learners' reflectivity/impulsivity and their metacognitive awareness of reading strategy use across different genders. The results of this study indicated that there existed such correlations. Though, this correlation was found to be positive for the reflective participants and negative for the impulsive ones. That is to say, the participants' reflectivity led them to be more metacognitively aware of reading strategy use (positive correlation) whereas their impulsivity led them to be less metacognitively aware of reading strategy use (negative correlation).

According to Carrell (1989), Mokhtari and Perry (2008), and Mokhtari, Sheorey and Reichard (2008) greater metacognitive awareness of learners leads to better reading comprehension. This means that the learners who have more metacognitive awareness of reading strategies are better readers. On the other hand, based on the results of this study, reflective learners are more metacognitively aware of reading strategy use. So, it is logical to assume that reflective learners are better readers. This conclusion is in line with Doron (1973) who suggested that reflective students were

slower but more accurate than impulsive students in reading and with Kagan (1965) who suggested that reflective children make fewer errors in reading than impulsive ones. Also these finding is in line with Brown's (2007) finding, who found that learners' preferences and tendencies play a great role in language learning for example students who are reflective can perform some kinds of learning activities better than students who are impulsive.

But, the results of this study is in contrast with the findings obtained by some previous researchers who believed Impulsivity/Reflectivity tendencies may not play a role in different accepts of language learning such as Talebi's (2012) results of the study which indicated that reflectivity/impulsivity may not play a great role in the use of formulaic sequences in news summary writing. Also the result of this study was not in line with the findings of Ghapanchi and Dashti (2011) results of the study which revealed that there was no significant difference between Low, Medium and High impulsives and their performance in Display, Referential, and Inferential reading comprehension questions. Another contrasting finding comes from Razmjoo and Mirzaei (2009) results of study which indicated that there was no relationship between reflectivity/impulsivity and language proficiency of the learners.

In sum, although some of above mentioned studies were not in favor of the existence of the relationship between Impulsivity/Reflectivity and different aspects of language learning, the present investigation made it clear that impulsivity/reflectivity tendencies may play a basic role in metacognitive awareness of reading strategy use between Iranian intermediate male and female EFL learners. This means that, in case of both male and female learners, the more reflective they are, the more metacognitively aware they become of their reading strategy use.

5. Conclusion

Based on the findings of this study, it might be concluded that there is a relationship between Iranian male and female EFL learners' use of reflectivity/impulsivity styles and their metacognitive awareness of reading strategy use, meaning that, the more reflective Iranian male and female learners were, the more metacognitively aware they were of reading strategy use whereas the more impulsive these participants were the less metacognitively aware they were of reading strategy use. Moreover, the reflective learners reported a significantly higher metacognitive awareness of reading strategies compared to the impulsive learners.

This study offers a number of pedagogical implications for teachers and learners:

For teachers:

One of the implications of this study for teachers is that they may accept that teaching all learners in a particular way may not provide all the learners to deal with their problems in language learning in general and in reading in particular. Consequently, teachers and educators will consider their learners' individualities in terms of their cognitive styles and gender which lead them to better understand several types of difficulties their students encounter during their reading process and to address them accordingly.

The results of this study also give teachers a sense of expectation from their learners. For example, in case of the impulsive learners they may not expect their impulsive learners to have so much metacognitive awareness of reading strategies and in case of reflective learners they may consider that reflective students require more patience from teachers than impulsive ones. Furthermore, teachers may teach fast-inaccurate or the impulsive learners to read more carefully and slow-accurate learners or reflectives to increase their speed in reading.

Also, the findings obtained from this study may be used as a guideline for teachers to figure out how students' gender may affect their strategy use. That is, learners' gender may call for helping them differently.

For students:

Apart from the aforementioned pedagogical implications, students themselves can also benefit from the findings of this study. They may not know what kind of cognitive style and reading strategies they employ while they are reading; exploring characteristics of reflectives/impulsives and reading strategies among the learners may help students to enhance their metacognitive awareness of reading strategies and to find out whether they are reflectives or impulsives. Moreover, students may also modify their style of learning to some extent for e.g., the impulsive learners can learn more about the effectiveness of the strategies the reflective learners use and apply them to improve their reading comprehension.

Finally, being aware of different reading strategies will help

Learners to recognize that when they do not understand the text, they can use several strategies to help them to understand the text.

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Appendix A
MARSI Questionnaires
Adopted from Mokhtari and Reichard (2002)

Name: male: female: age:

Directions: Listed below are statements about what people do when they read *academic or school-related materials* such as textbooks or library books.

After reading each statement, **circle the number** (1, 2, 3, 4, or 5) that applies to you using the scale provided. Please note that there are no right or wrong answers to the statements in this inventory.

- 1 means "I **never or almost never** do this."
- 2 means "I do this **only occasionally**."
- 3 means "I **sometimes** do this" (about **50%** of the time).
- 4 means "I **usually** do this."
- 5 means "I **always or almost always** do this."

1. I have a purpose in mind when I read. 1 2 3 4 5
2. I take notes while reading to help me understand what I read. 1 2 3 4 5
3. I think about what I know to help me understand what I read. 1 2 3 4 5
4. I preview the text to see what it's about before reading it. 1 2 3 4 5
5. When text becomes difficult, I read aloud to help me understand what I read. 1 2 3 4 5
6. I summarize what I read to reflect on important information in the text. 1 2 3 4 5
7. I think about whether the content of the text fits my reading purpose. 1 2 3 4 5
8. I read slowly but carefully to be sure I understand what I'm reading. 1 2 3 4 5
9. I discuss what I read with others to check my understanding. 1 2 3 4 5
10. I skim the text first by noting characteristics like length and organization. 1 2 3 4 5
11. I try to get back on track when I lose concentration. 1 2 3 4 5
12. I underline or circle information in the text to help me remember it. 1 2 3 4 5
13. I adjust my reading speed according to what I'm reading. 1 2 3 4 5
14. I decide what to read closely and what to ignore. 1 2 3 4 5
15. I use reference materials such as dictionaries to help me understand what I read. 1 2 3 4 5
16. When text becomes difficult, I pay closer attention to what I'm reading. 1 2 3 4 5
17. I use tables, figures, and pictures in text to increase my understanding. 1 2 3 4 5

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18. I stop from time to time and think about what I'm reading. 1 2 3 4 5
19. I use context clues to help me better understand what I'm reading. 1 2 3 4 5
20. I paraphrase (restate ideas in my own words) to better understand what I read. 1 2 3 4 5
21. I try to picture or visualize information to help remember what I read. 1 2 3 4 5
22. I use typographical aids like boldface and italics to identify key information. 1 2 3 4 5
23. I critically analyze and evaluate the information presented in the text. 1 2 3 4 5
24. I go back and forth in the text to find relationships among ideas in it. 1 2 3 4 5
25. I check my understanding when I come across conflicting information. 1 2 3 4 5
26. I try to guess what the material is about when I read. 1 2 3 4 5
27. When text becomes difficult, I reread to increase my understanding. 1 2 3 4 5
28. I ask myself questions I like to have answered in the text. 1 2 3 4 5
29. I check to see if my guesses about the text are right or wrong. 1 2 3 4 5
30. I try to guess the meaning of unknown words or phrases. 1 2 3 4 5

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Appendix B
Reflectivity Questionnaire
Adopted from Talebi (2012)

Name: male: female: age:

Directions:

For each of the questions below choose either “a” or “b” to indicate your answer. Please choose only one answer for each question. If both “a” and “b” seem to apply to you, choose the one that applies more frequently. Please make your choice in the answer sheet.

NOTE: Writing your gender is absolutely necessary!

1. I understand something better after I
 - a) Think it through
 - b) Try it out (to test it to see how good or effective it is)

2. When I am learning something new, it helps me to
 - a) Think about it.
 - b) Talk about it.

3. If I were a teacher, I would rather teach a course
 - a) That deals with ideas and theories.
 - b) That deals with facts and real situations

4. When I solve math problems
 - a) I often just see the solutions but then have to struggle to understand the steps to get to them.
 - b) I usually work my way to the solutions one step at a time.

5. When I'm analyzing a story or a novel
 - (a) I think of the incidents and try to put them together to figure out the themes.
 - (b) I just know what the themes are when I finish reading and then I have to go back and find the incidents that demonstrate them.

6. When I start a homework problem, I am more likely to
 - (a) Try to fully understand the problem first.
 - (b) Start working on the solution immediately.

7. I would rather first
(a) Think about how I'm going to do it.
(b) Try things out.
8. I more easily remember
(a) Something I have thought a lot about.
(b) Something I have done.
9. I prefer courses that emphasize
(a) Abstract material (concepts, theories).
(b) Concrete material (facts, data).
10. To answer a vocabulary question accurately, I would:
(a) Use the hint option (to be guided).
(b) Give it a try trusting my knowledge
11. When solving problems in a group, I would be more likely to
(a) Think of possible consequences or applications of the solution in a wide range of areas.
(b) Think of the steps in the solution process.
12. I prefer working with programs that include:
(a) Timed exercises.
(b) Non-timed exercises.
13. When listening to a text, it is most likely that I:
(a) Listen to it again to make sure my answers are right.
(b) Make my choice and continue with the next exercise.
14. If I want to know the meaning of a new word, I am more likely to:
(a) Look it up in the dictionary.
(b) Guess the meaning from context.
15. If a sentence I enter turns out to be wrong, I am more likely to:
(a) Check it and retype it again.
(b) Continue with the next one without correcting it.
16. After typing a text, I am more likely to:
(a) Review it before emailing it.
(b) Email it at once.
17. If a grammar question is too difficult to answer, I am likely to:
(a) Read it and save it for later.
(b) Read it and answer it at once, no matter if my answer is incorrect

18. I like to look before I leap (to think of possible results) when determining what to say or write in a target language. (A) Yes (B) No
19. I need to think things through before speaking or writing.
(A) Yes (B) No
20. I attempt to find supporting material (to have a reason) in my mind before producing language.
(A) Yes (B) No
21. I stop to think things over before doing anything.
(A) Yes (B) No
22. I'd rather start to do things, rather than pay attention to directions. (A) Yes (B) No
23. Manipulating objects (changing the form of objects) helps me to remember what someone says. (A) Yes (B) No
24. I experience things first and then try to understand them.
(A) Yes (B) No
25. I want to understand something well before I try it.
(A) Yes (B) No
26. I ignore details that do not seem relevant.
(A) Yes (B) No
27. I ignore the details that would make what I say more accurate in the given context.
(A) Yes (B) No
28. I interrupt a conversation, see what happens, and make corrections if needed.
(A) Yes (B) No