# Cognitive Styles and Sub-Skills: A Study on the Relationship between Reflectivity/ Impulsivity Dimension and Vocabulary/ Grammar Development among EFL Learners

**Article info**

**Authors:**

Azar Bagheri Masoudzade[1]
Neda Fatehi Rad[2*]

**Affiliations:**

1. PhD in TEFL, Department of English Language, Qeshm Branch, Islamic Azad University, Qeshm, Iran.
2. Assistant Professor, Department of English Language, Kerman Branch, Islamic Azad University, Kerman, Iran. nedafatehi@yahoo.com

**Abstract**

**Purpose**: This study endeavored to find out the possible relationship between reflectivity and impulsivity as cognitive learning styles and vocabulary/ grammar development as sub-skills among EFL learners.

**Methodology**: Two intact classes of the third-grade students were selected by the researchers and Oxford Placement Test was run for homogenizing them. After that, Barrat's (2005) Impulsive/ Reflective questionnaire was given to the participants and they had to respond the translated items in a limited time. Regarding the score scale provided by the questionnaire, the participants were labeled as reflective and impulsive ones. Next, a standard grammar/vocabulary test, extracted from their book, administered to them and the scores were recorded by the researchers. Then, the scores of the questionnaires and tests sent to SPSS software for analyzing and interpreting the data. In inferential statistics, the researchers used correlation test to examine the possible relationship between the students' learning styles and their sub-skills development.

**Findings**: Results of the study indicated a positive relationship between the students' sub-skills achievements (vocabulary/ grammar) and their learning styles (reflectivity/ impulsivity). In other words, reflectivity and impulsivity had effect on the students' performance in sub-skills, as the reflective students presented better performance and made fewer errors than the impulsive ones in vocabulary and grammar tests.

**Conclusion**: According to the results, it can be concluded that the higher the reflectivity of the learners is, the more successful they tend to be in such tests. It is expected that the findings of the research indicate the importance of learning styles in educational environment.

**Keywords:** Cognitive Style, Reflectivity, Impulsivity, Vocabulary, Grammar

## Introduction

Cognitive style or "thinking style" is a term used in cognitive psychology to define the way individuals think, perceive and remember information. Kagan (2001) studied the educational implications of nine different cognitive styles, and concluded that the implications of Reflection-Impulsivity on several areas of personality, behavior, and learning were noticeable. Furthermore, Abraham (2000) mentioned that cognitive style is a part of the learners' personality which obviously is related to second language learning for they depict individuals' differences in a learning context and test performance. The term cognitive style was explained by Brown (2000) as the link between personality and cognition that influences how we learn things in general, and the particular approach we adopt when dealing with problems. Among a lot of cognitive styles that exist, only a few of them have received attention in second language research in recent years. Reflectivity and Impulsivity as two of the most important cognitive styles which have been regarded by the researchers to see if they are related to learning and learners' performance. Reflectivity and Impulsivity are the cognitive styles that were regarded to be in relation with language learning process and performance in language skills. Impulsive and reflective cognitive styles are viewed to be a person's different style of shaping concepts, thinking and solving problems. They refer to the ways that individuals select process information and hypotheses. In fact, the "impulsive ones" reach decisions and report them very fast with little concern for accuracy, while the "reflective ones" are more concerned with accuracy and consequently take more time to reach a decision (Kagan, 2005).

Hedge (2000) mentioned that teaching grammar provides explicit framework to produce correct structures and expedite the learning process. Also, Damra (2012) claimed that grammar is the base of the language; it provides students with the structures and rules they need in order to organize their messages and ideas. Nowadays, it is almost accepted that vocabulary learning is a vital component of acquisition of individual's native language and learning a foreign language (Morra et al., 2009). It should be noted that the researchers made an attempt to extend the previous results and examined the relationship between reflectivity/impulsivity and language sub-skills in a new context. The role of sub- skills as vocabulary and grammar in academic success or failure of language learners is undeniable that many studies have focused on how to enhance students' language sub-skills in order to increase intake of information (Han, Park, & Combs, 2008). Related research has revealed that the certain features of the language learners can affect language learning. One of these features is learners' learning style (Wang, Wang & Huang, 2008). Kolb and Kolb (2005) mentioned that determining individuals' learning styles can display what suitable channel should be opted to conduct classes. Hence, it is essential to study language learners' learning styles and their relationships with language skills. Xu (2011) mentioned that among all the learning styles, personality learning styles have the most significant effect on language learning. Personality learning styles are normally discussed under two main titles, reflectivity and impulsivity. Reflective learners are those who seek fluency and accuracy, while, impulsive learner tend to learn more thoroughly rather than more precisely. The former groups prevent making errors and mistakes, whereas the latter might be more open to making mistakes. Several studies on students' cognitive styles indicated associated positive outcomes including better workplace performance, higher academic achievement, better relationship quality, and a greater sense of well-being (Reid, 2005). Most EFL teachers are not aware of using students' learning styles in their classrooms, so they might not employ the effective strategy and may get disappointed or lose their nerves. Moreover, little is known about the specific cognitive styles that are most effective in contexts where learning is a priority (Ghanizadeh et al., 2011). Identifying the students' cognitive styles that affect their understanding and learning, or whether the strategy effectiveness changes for learners' abilities are considerable factors in educational context (Nematpour, 2012).

Some of the studies concerning the relationship between cognitive styles and language skills, have focused on the effect of students' cognitive styles on the language skills whether in their first, second, or foreign language (Messer, 2006; Salimi, 2001; Ghapanchi & Dashti, 2011). However, to the author's best knowledge, no study has analyzed the relationship between reflectivity/ impulsivity and sub-skills. In addition to the four skills in any language, sub-skills are elementary mainstay. It is important to note that most of the students do not possess sub-skills knowledge to communicate effectively that will make them able to become successful upon graduation (Dixon & Nessel, 2003). Although a great deal of time and effort in Iranian schools and even in universities is spent on teaching grammar and vocabulary, still most of students are not able to use them in English sentences effectively. This study was conducted in order to investigate the possible relationship between

reflectivity/impulsivity and grammar/vocabulary knowledge among EFL learners of high school, thus the following questions have been formed;

1.  Is there any relationship between EFL learners' reflectivity and their vocabulary scores?
2.  Is there any relationship between EFL learners' impulsivity and their vocabulary scores?
3.  Is there any relationship between EFL learners' reflectivity and their grammar scores?
4.  Is there any relationship between EFL learners' impulsivity and their grammar scores?


Review of the Related Literature

Naimie, Siraj, Shagholi and Abuzaid (2010) conducted a similar study to find out the effect of matching learners' learning style on their achievement. They concluded that the main learning styles are active, sensing, visual, and global. They also concluded that matching learners' learning style can positively affect their achievements. In other study, Hajimohammadi and Mukundan (2011) evaluated the effect of learning styles on writing. They measured the effect of self-correction on writing skill of introvert and extrovert Iranian EFL learners. They selected 120 Iranian pre-intermediate learners in their study and used Eysenck questionnaire to divide the language learners into introvert and extrovert ones. The results of the study indicated that self-correction is a more effective correction technique for introvert language learners compared to extrovert ones. Also, Nematpour (2012) examined learners' autonomy level and its relationship with learning style. They made use of 200 undergraduate students who were studying at university level. They applied two questionnaires to conduct this study. One was the Learner Autonomy Questionnaire, and the other one was Perceptual Learning Style Questionnaire. The findings showed that visual and auditory learning styles were significantly and positively related to their learner autonomy. However, there were no significant differences among males and females regarding language learning style and autonomy level.

Mahdavinia and Molavizade (2013) tried to examine the relationship between reflectivity/impulsivity and the uses of idioms in composition writing among Iranian Advanced EFL learners. The findings of their study indicated 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 language students. Moreover, Morovat (2014) examined whether there is any relationship between reflectivity and impulsivity as two learning styles in cognitive domain and IELTS candidates' band scores in the speaking module. To fulfill the goal of the study, 52 IELTS candidates from two institutes in Shiraz were chosen. After analyzing data, it was found that there is no relationship between the dimensions of Reflectivity and Impulsivity and IELTS candidates' band scores, nor between the components of these dimensions. Findings also indicated that there is no difference between R/I in achieving a higher band score. Besides, Haghighi, Ghanavati and Rahimi (2015) analyzed the role of gender differences in the cognitive style of impulsivity/reflectivity and EFL success. 105 Iranian pre-university female and male students in Shiraz, were randomly selected to take part in this study, divided into two groups of I/R based on the results of adult/adolescent version of Matching Familiar Figures Test (MFFT), an individually administered visual discrimination matching-to-sample task, based on their response latency and response accuracy. Data analysis showed that I/R tendencies do not facilitate EFL success, since there was not a statistically significant relationship between the variables of the present study; therefore, teachers should not ignore impulsivity, though they should be taught to postpone their obviously incorrect answers.

Soltani, Hadidi and Seifoori (2016) studied the 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. 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. In a recent study, Shabani, Ramazani and Alipoor (2017) investigated the effect of impulsivity and reflectivity on reading comprehension of Iranian English as a Foreign Language (EFL) learners. 72 language learners were selected from 4 intact classes out of 112 learners. Nelson proficiency test was given to the

participants as homogeneity test. Based on the results of the questionnaire, the participants formed 3 different groups, the control group consisted of less impulsive and less reflective learners based on Barrat's scale. An IELTS reading test was administered to the participants. Based on the results of independent samples t-test, it was found that impulsivity and reflectivity do not have any effect on reading comprehension of Iranian EFL learners.

**Methodology**

Participants of this research were Iranian EFL learners who were studying English in a high school in Kerman. All of the participants were female students of the third grade whose ages ranged from 16-17. According to Mackey and Gass (2013), convenience groups are those within a population that share similar characteristics. At the beginning of the research, two intact classes included 62 students were chosen based on the convenience sampling to participate in the present work.

Oxford Placement Test (OPT) is an English language test provided by Oxford University Press Language Assessment. As far as this test developed by Oxford Language University, it is considered as a standardized, valid and reliable test. This test was used at the beginning of the research in order to determine the student's level of language proficiency. The basic OPT included 50 multiple- choice items related to grammar and vocabulary as sub-skills. Regarding the students' scores, the participants whose scores on the language proficiency test fell within $\pm 1$ standard deviation of the mean score, were attended in the present study. Out of 62 students, 55 participants whose scores on the language proficiency test fell within $\pm 1$ standard deviation of the mean score, attended in the present project.

Barrat (2005) Impulsive/Reflective Questionnaire was used in this study to divide the participants into impulsive and reflective learners. The questionnaire is a valid one, and has been repeatedly used for this purpose (e.g., Rastegar & Safari, 2017). The time allocated to this test was 20 minutes. The questionnaire consisted of 30 items; 12 items related to reflectivity and 18 items related to impulsivity. Once again, the reliability and validity of the questionnaire were analyzed and reported by the researchers. The reliability of the questionnaire was analyzed through Cronbach's Alpha, reported as .79. To avoid any confusion and enhance validity, the questionnaire was translated to Persian and it was reviewed by two experts in this field. Also, the items difficulty and length of the questionnaire were checked by those experts.

Grammar and vocabulary tests were used to measure the participants' ability in sub-skills. The test was extracted from their English textbook which is standard, reliable and valid. In other words, its reliability and construct validity had been checked before. Both tests were the objective ones and the scoring checklist was provided with them. Each test consisted of 20 items of vocabulary and grammar. In vocabulary test, they were supposed to show their knowledge of vocabulary items by providing information such as fill in the blanks, multiple-choice, match definitions.

For conducting the present work, at first two intact classes of the third-grade students were selected by the researchers. It means that the researchers selected the entire classes which were assigned to specified treatment. In the second place, basic Oxford Placement Test was run for homogenizing them and regarding their scores, some were excluded from the research. After that, the researchers explained the necessary things about this study to the participants obviously and told them what they had to do. However, the main objective of the study kept invisible to them. Then, the translated impulsive/reflective questionnaires were distributed among them and they had to respond the questions in 20 minutes. Regarding the score scale provided by the questionnaire, the participants were labeled as impulsive and reflective ones to study. In the following day, the participants were asked to take part in grammar and vocabulary tests. The tests were done in a limited time under the supervision of the researchers. Fortunately, none of the students were absent during data collection steps, and this factor would increase the reliability of the results. Eventually, the scores of the questionnaires and tests sent to SPSS software for analyzing and interpreting. The data were inserted into SPSS software for analyzing and interpreting. Both descriptive and inferential statistics were used in this study. In descriptive statistics, the researchers analyzed reflectivity/impulsivity questionnaire to highlight the students' cognitive styles. In inferential statistics, in order to reveal a significant relationship between cognitive styles and language sub-skills, a series of Pearson correlation test was used. In other words, inferential statistics were used in order to find out the possible relationship between the variables.

## Findings

### Descriptive Statistics of Questionnaire

In this section descriptive statistics analysis was conducted in order to evaluate different parts of questionnaire related to cognitive styles. Frequency and percentage of each item were used in order to investigate every item of the questionnaire. 12 items (1, 7, 8, 9, 10, 12, 13, 15, 26, 29, 30) are related to "Reflectivity", and 18 items (2, 3, 4, 5, 6, 11, 14, 16, 17, 18, 19, 21, 22, 23, 24, 25, 27, 28) indicating "Impulsivity" (Barrat, 2005), which have been calculated based on the following table (1).

**Table 1.** Table score for cognitive styles

| Cognitive Styles | Rarely/ Never | Occasionally | Often | Almost Always /Always |
|---|---|---|---|---|
| Reflectivity | 1 | 2 | 3 | 4 |
| Impulsivity | 4 | 3 | 2 | 1 |

Descriptive statistics analysis was conducted for analyzing the items of the questionnaire related to cognitive styles (Reflectivity & Impulsivity). All the 30 items of the questionnaire measured in a Four-Point Likert scale, ranging from "Rarely/ Never" to "Almost Always/ Always". Frequency and percentage of each item were used in order to investigate students' reflectivity/impulsivity as their cognitive style. The results are displayed in the following table.

**Table 2**. Descriptive Statistics of the Questionnaire Scores

| | N | Minimum | Maximum | Sum | Mean | Std. Deviation |
|---|---|---|---|---|---|---|
| Reflectivity | 26 | 18 | 21 | 455 | 18.12 | 1.29 |
| Impulsivity | 29 | 18 | 21 | 495 | 17.53 | 1.58 |

Note. N indicates Number of Participants

### Correlation Tests

After collecting and analyzing the scores, "Correlation Test" was employed for finding the possible relationship between the variables, reflectivity/impulsivity and vocabulary/ grammar.

**Table 3.** Inferential statistics of correlations (Vocabulary & Reflectivity)

| | | Scores | Reflectivity |
|---|---|---|---|
| Pearson Correlation | Vocabulary Scores | 1.00 | .48 |
| | Reflectivity | .48 | 1.00 |
| Sig. (1-tailed) | Vocabulary Scores | . | .04 |
| | Reflectivity | .04 | . |
| N | Vocabulary Scores | 26 | 26 |
| | Reflectivity | 26 | 26 |

Table 3 illustrates the results of vocabulary test in order to find out the possible relationship between students' reflectivity and their vocabulary scores. The first score (.48) in the above table indicates the correlation coefficient which is from +1 to -1. The other score (.04) shows p-value or Sig. If it (Sig) is less than .05, the significant relationship between two variables is possible. In this test, the correlation coefficient of the students' vocabulary scores with the level of reflectivity reported .48. The amount of correlation coefficient is positive which proves the high relationship between the two variables (reflectivity and vocabulary scores). In other words, the more reflective students, the more obtained scores. Moreover, regarding the amount of Sig, it can be concluded that the relationship between two variables is remarkable (Sig=.04<.05).

**Table 4.** Inferential statistics of correlations (Vocabulary & Impulsivity)

|  |  | Scores | Impulsivity |
|---|---|---|---|
| Pearson Correlation | Vocabulary scores | 1.00 | -.43 |
|  | Impulsivity | -.43 | 1.00 |
| Sig. (1-tailed) | Vocabulary scores | . | .01 |
|  | Impulsivity | .01 | . |
| N | Vocabulary scores | 29 | 29 |
|  | Impulsivity | 29 | 29 |

Table 4 indicates the result of vocabulary test in order to find out the possible relationship between the students' impulsivity and their vocabulary scores. The first score (-.43) in the above table indicates the correlation coefficient which is from +1 to -1. The other score (.01) shows p-value or sig. If it is less than .05 (Sig <.05), the significant relationship between two variables is possible. In this test, the correlation coefficient of the students' vocabulary scores with the level of impulsivity reported -.43. The amount of correlation coefficient is negative (-.43) which proves the reverse and high relationship between the two variables (Impulsivity & Vocabulary Scores). In fact, it should be noted that the more impulsive students, the less obtained score. Moreover, regarding the amount of Sig, it can be concluded that the relationship between two variables is meaningful (Sig=.01<.05).

**Table 5.** Inferential statistics of correlations (Grammar & Reflectivity)

|  |  | Scores | Reflectivity |
|---|---|---|---|
| Pearson Correlation | Grammar Scores | 1.00 | .47 |
|  | Reflectivity | .47 | 1.00 |
| Sig. (1-tailed) | Grammar Scores | . | .03 |
|  | Reflectivity | .03 | . |
| N | Grammar Scores | 26 | 26 |
|  | Reflectivity | 26 | 26 |

Table 5 illustrates the results of grammar test in order to find out the possible relationship between students' reflectivity and their grammar scores. The first score (.47) in the above table indicates the correlation coefficient which is from +1 to -1. The other score (.03) shows P-value or Sig. If it (Sig) is less than .05, the significant relationship between two variables is possible. In this test, the correlation coefficient of the students' grammar scores with the level of reflectivity reported .47. The correlation coefficient proves the high relationship between the two variables (Reflectivity and grammar scores). As it is obvious, the more reflective students, the more obtained scores. Also, regarding the amount of Sig, it can be concluded that the relationship between two variables is significant (Sig=.03<.05).

**Table 6.** Inferential statistics of correlations (Grammar & Impulsivity)

|  |  | Scores | Impulsivity |
|---|---|---|---|
| Pearson Correlation | Grammar scores | 1.00 | -.41 |
|  | Impulsivity | -.41 | 1.00 |
| Sig. (1-tailed) | Grammar scores | . | .01 |
|  | Impulsivity | .01 | . |
| N | Grammar scores | 29 | 29 |
|  | Impulsivity | 29 | 29 |

Table 6 indicates the results of grammar test in order to find out the possible relationship between the students' impulsivity and their grammar scores. The first score (-.41) in the above table indicates the correlation coefficient which is from +1 to -1. The other score (.01) shows p-value or Sig. If it (sig) is less than .05, the significant relationship between two variables is possible. In this test, the correlation coefficient of the students' grammar scores with the level of impulsivity reported -.41. The amount of correlation coefficient is negative (-.41) which

proves the reverse and high relationship between the two variables (Impulsivity & Grammar scores). That is to say, the more impulsive students, the less obtained score. Moreover, regarding the amount of Sig, it can be concluded that the relationship between two variables is meaningful (Sig=.01<.05).

The study provided explanation for statistically relationship between variables of the present study which is in complete agreement with Jamieson's (2001) conclusion. As the results of the tables showed, a significant relationship between the variables is possible. Analysis of table 3 illustrates a high relationship between reflectivity and vocabulary scores, and analysis of table 4 proved a reverse relationship between the mentioned variables. In fact, the test concludes the more impulsive the students, the less obtained score. Considering the results of cognitive styles and grammar test, a significant relationship between two variables is possible. Table 5 proves a high relationship between reflectivity and grammar scores. As it is obvious, the more reflective students, the more obtained scores. Also, table 6 revealed the reverse relationship between two variables, the more impulsive students and the less obtained score.

It is worth mentioning that the results of the current study are in line with what Jamieson (2001) and Hansen-Strain (2007) have done and achieved. They concluded that learning styles have remarkable effect on the learners' performance in writing skill. Also, the outcomes of this study are in line with Doron (2003) who suggested that reflective students were slower but more accurate than impulsive students in reading skill, and Kagan (2005) who stated that reflective children make fewer errors in reading than impulsive ones. Furthermore, the results of this work are in accordance with Brown's (2007) achievements, who found that learners' preferences and tendencies play a great role in language learning, for example the students who are reflective can perform some kinds of learning activities better than those who are impulsive. Moreover, Nematpour (2012) checked the learners' autonomy level and its relationship with learning style and the results revealed that learning styles were significantly and positively related to their learner autonomy, also Gültekin and Karababa (2010) found a similar effect among Turkish language learners. Additionally, some of the research studies investigating the relationship between reflectivity and impulsivity cognitive style and language skills which have focused on the impact of children or adults' cognitive styles on the receptive skills of reading or listening whether in their first, second, or foreign language (Salimi, 2001; Pirouznia, 2004; Ghapanchi & Dashti, 2011). Salimi (2001) examined the relationship between impulsivity and performance of Ph.D. candidates' general English proficiency test. Overall results of the research indicated that low impulsive students outperformed high. Besides, the findings of a recent study by Nisa (2018) highlighted that reflective learner had better performance in reading comprehension than impulsive learners. Also, Larsari (2013) discovered that reflective students were slower and more accurate than impulsive ones, and suggested that this fact be taken into account in the teaching of reading in ESL.

On the other hand, the findings of the present study are not in line with the results of Reeve and Jang (2006) who declared that learners' styles do not have a significant effect in learning and language skills. Another contrasting finding comes from Pazouki and Rastegar (2009) research which explored the relationship between the learning style and EFL proficiency, and no significant relationship was achieved between reflectivity and impulsivity. In the same year Razmjoo and Mirzaei (2009) highlighted no relationship between reflectivity/impulsivity and students' language proficiency. Also, the results of this study are 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) study which indicated that reflectivity/impulsivity may not play a great role in the use of formulaic sequences in summary writing, and Ghapanchi and Dashti's (2011) results that showed no significant difference between low, medium and high impulsive learners and their performance in display, referential and inferential reading comprehension questions. Additionally, the results of this research are inconsistent with the study by Shabani et al., (2017) who found that these two learning styles are not determining ones with regard to reading comprehension skill as their effect on reading comprehension of Iranian EFL learners was not statistically significant. The results of other study by Rastegar and Safari (2017) indicated that learning styles did not have any impact on learning in terms of reading comprehension skill.

## Conclusion

As recently stated, findings of this study concentrated on analyzing the students' learning styles related to their personality (reflectivity/ impulsivity) and their sub-skills performance. The results of the present work indicated that the mentioned learning styles (impulsivity/ reflectivity) can effect on the students' performance in

vocabulary and grammar as sub-skills, which a positive relationship found between reflectivity and participants' achievements. In other words, the reflective students presented better performance and made fewer errors than the impulsive ones in vocabulary and grammar tests. Accordingly, it can be concluded that the higher the reflectivity of the learners is, the more successful they tend to be in such tests. Furthermore, a positive and significant relationship between reflectivity and sub-skills of the learners confirmed that the more reflective or the less impulsive the learners are, the better performance is in those tests.  The present research made it clear that impulsivity and reflectivity tendencies play a basic role in learning English as a foreign language among the Iranian EFL learners. That is to say, the findings of the present research indicated that personality tendency can facilitate learning English as a foreign language. In addition, it was shown in the study that the learners' impulsivity and reflectivity as independent variables had a significant contribution to the predictability about the dependent variables which is ability of the EFL learners in language sub-skills. Considering this fact, it can be said that "Impulsivity" and "Reflectivity" can be considered as two sources of variation in language learning process and outcome, particularly in vocabulary and grammar test scores. It is worthy to note that those learners who are in position to select how they get a new language, can ensure that their preferred style matches the teaching methodology of the special language course they want to enroll in. For instance, reflective learners may not be so well in purely conversational classes and auditory learners may prefer to prevent a course with a heavy reading requirement. Generally, language teachers can be aware of the range of learning styles in their classes and make effort to find activities that will at least satisfy all the students at some time during the course. As Felder (2018) noted, mismatches often take place between the students' learning styles in a language class and the instructor's teaching style with unfortunate impacts on the quality of the students' learning and on their perception towards the class and the subject.

Based on some educational psychologists, students learn more when information is presented in a variety of modes than a single mode (Fleming & Baume, 2006). What must be carried out to achieve effective foreign language learning is to balance instructional methods, somehow arranging the class so that all learning styles are sequentially or simultaneously accommodated. Moreover, a teacher who can purposefully present a wide range of teaching styles, is able to accomplish more than a teacher whose repertoire is relatively limited. Students can also develop their learning power by being aware of style areas in which they feel less comfortable. Similarly, teachers can recognize strong style patterns in their classes and make useful use of such information by designing lesson plans which accommodate individual learning style preferences (Smith & Renzulli, 2004). Concentrating on different dimensions of language learning styles; decision-makers, teachers, or instructors can perceive the importance of cognitive learning styles of EFL learners and focus more on them. Also, they will become more aware of the importance of students' learning styles and they can apply different strategies and make effort to cover them. Additionally, teachers can take this study to recognize strong style patterns in their classes that they should consider in designing learning tasks. This helps teachers get the students' learning styles and made them more aware of their strengths and weaknesses in learning, therefore they effectively could use their strengths and compensate for their weaknesses.

This project can be useful for teachers to put students into different categories regarding their learning styles. Most of people will not find it difficult to identify their preferred learning styles; some may feel that their style changes based on the learning situation and the language task. Knowing the students' preferred learning styles can help to explain why some aspects of language seem more difficult than others. For example, an analytic learner will not feel comfortable doing a language activity which involves a lot of unstructured, spontaneous speech without any concern for grammatical correctness. However, a field-dependent learner emphasizes on communicative meaning of the sentences, not on their value in practicing grammar. More importantly, teachers are the key to examine the students' language styles. Evaluating the language learning styles may have professional development in the educational context such as language institutes, schools, universities, etc. Accordingly, teachers should be encouraged to take new responsibilities and roles on evaluating and reporting the language learning styles of learners, if the language learning styles can effectively improve the teaching and learning qualities. Also, teachers should help students to discover their own learning preferences and provide constructive feedback about the benefits and disadvantages of different styles. They should respect the learners' current preferences and encourage their development, while at the same time creating chances for students to test with different ways of learning. They can also make use of learning materials and teaching techniques that are more suitable for learners with various learning preferences.

## References

Abraham, R, (2000). The relationship of cognitive style to the use of grammatical rules by Spanish-speaking ESL students in editing written English. Unpublished doctoral dissertation, Champaign-Urbana, University of Illinois.

Barratt, E. S. (2005). Impulsiveness and aggression. In J. Monahan & H. J. Steadman (Eds.), Violence and mental disorder: Developments in risk assessment (pp. 61–79). Chicago, IL: University of Chicago Press.

Brown, H.D. (2000). Principles of language learning and teaching (4th edition). New York: Pearson Longman.

Brown, H.D. (2007). Teaching by Principles: An interactive Approach to Language Pedagogy (3rd. Ed.). White Plains, New York: Pearson Education

Damra, H. M. (2012). The effect of using language on grammar achievement and attitudes toward learning of basic stages EFL students. International Journal of Business and Social Science. Vol. 3 No. 1; January 2012.

Dixon, C.N., & Nessel, D. (2003). Language experience approach to reading and writing: Language experience for second language learners. Hayward, CA: Alemany Press.

Doron, S. (2003). Reflectivity-impulsivity and their influence on reading for inference for adult students of ESL. Unpublished manuscript, University of Michigan.

Felder, R. (2018). Learning and Teaching Styles in Foreign and Second Language Education. Foreign Language Annals, 28, No. 1,1995, pp. 21–31.

Fleming, N., & Baume, D. (2006). Learning styles again: varking up the right tree!, Educational Developments. SEDA Ltd, 7 (4), Nov, 4-7.

Ghanizadeh, A., Boori, A., & Toussi, M. (2011). The Role of EFL students' Learning Styles in Effective Teaching. World Journal of Education. Vol. 1, No. 2; October 2011.

Ghapanchi, Z., & Dashti, Z (2011). The relationship between cognitive style of impulsivity and display, referential, and inferential reading comprehension questions among Iranian EFL University students. Canadian Social Science, 7 (6), 227-233.

Gültekin, İ. & Karababa, Z.C. (2010). The Relation between the autonomy level and the learning styles of English language learners. Ankara University Turkey. EABR & ETLC Conference Proceedings Dublin, Ireland.

Haghighi, M., Ghanavati, M., & Rahimi, A. (2015). The Role of Gender Differences in the Cognitive Style of Impulsivity/Reflectivity and EFL Success. Social and Behavioral Sciences 19 (2), Pp. 467 – 474.

Hajimohammadi, R., & Mukundan, J. (2011). Impact of self-correction on extrovert and introvert students in EFL writing progress. English Language Teaching, 4 (2), 161.

Han, Z., Park, E. S., & Combs, C. (2008). Textual enhancement of input: Issues and possibilities. Applied Linguistics, 29 (4), 597-618.

Hansen-Strain, L. (2007). Cognitive Style & First Language Background in Second Language Test Performance. TESOL Quarterly, 21, 265-268.

Hedge, T. (2000). Teaching and learning in the language classroom. Oxford: Oxford University Press.

Jamieson, J. (2001). The Cognitive Style of Reflection/ Impulsivity & Field Independence & ESL Success. Modern Language Journal, 76, 491-501.

Kagan, J. (2001). Reflection-impulsivity and reading ability in primary grade children. Child Development, 37,583-594.

Kagan, J. (2005). Reflection – Impulsivity: The Generality and Dynamics of conceptual Tempo. Journal of Abnormal psychology, 71, 359 - 64.

Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. Academy of management learning & education, 4(2), 193-212.

Larsari, M. (2013). Reflection-Impulsivity and Reading Ability. Research on theories of cognitive styles. Time Education, 5, 130-131

Mackey. A., & Gass, S. (2013). Second Language Research Methodology and Design. Lawrence Erlbaum Associates, Publishers Mahwah, New Jersey. London.

Mahdavinia, M., & Molavizadeh, M (2013). On the Relationship between Impulsivity/Reflectivity Cognitive Style and the Use of Idioms in Composition Writing Among Iranian Advanced EFL Learners. International Electronic Journal for the Teachers of English, 3 (1), pp. 49-61.

Messer, S.B. (2006). Reflection-impulsivity: a review. Psychological Bulletin. 83, 1026-1052.

Morovat, E. (2014). Effects of Reflectivity/Impulsivity on IELTS Candidates' Band Scores in the Speaking Module of the Test. Social and Behavioral Sciences 9 (8), Pp.1232 − 1239.

Morra, S., Gobbo, C., Marini, Z., & Sheese, R. (2008). Cognitive development: Neo-Piagetian perspectives. New York: Lawrence Erlbaum.

Naimie, Z., Siraj, S., Shagholi, R., & Abuzaid, R. A. (2010). Did you cook your lesson based on right recipe? (Accommodating the Students Preferences in Class) Social Behavioral Sciences, 2, 383-387.

Nematpour, H. (2012). What teachers say and do to support students' autonomy during a learning activity. Journal of educational psychology, 98(1), 209.

Nisa, N. A. (2018). The Comparative Study between Reflectivity and Impulsivity Cognitive Style in Using Learning Strategy in Reading Comprehension on Second Graders. The language and art department of the faculty of Teacher Training and Education.

Pazouki, M. and Rastegar, M. (2009). Investigating the relationship between Learning styles and EFL Proficiency. Psychological Research, (11 & 2).

Pirouznia, M. (2004). The Impact of Impulsivity − Reflectivity on EFL Reading Comprehension: MA thesis. Tehran University.

Rastegar, B., & Safari, F. (2017). Output-Based Instruction, Learning Styles and Vocabulary Learning in the EFL Context of Iran. International Journal of Education and Literacy Studies, 5(2), 101-111.

Rastegar, B., & Safari, F. (2017). Output-Based Instruction, Learning Styles and Vocabulary Learning in the EFL Context of Iran. International Journal of Education and Literacy Studies, 5 (2), 101-111.

Razmjoo, S. A., & Mirzaei, R. (2009). On the relationship between dimensions of reflectivity/ impulsivity as cognitive styles, language proficiency and, GPAsamong the Iranian EFLuniversity learners. Iranian Journal of Language Studies, 3(1), 105-124.

Reid, J. M. (2005). Learning Styles in the ESL/EFL Classroom. Heinle & Heinle Publishers.

Salimi, E. (2001). On the relationship between impulsivity-reflectivity cognitive style and performance in TMU English proficiency test. Unpublished Master dissertation. TMU Iran, Iran.

Shabani, S., Ramazani, M., & Alipoor, I. (2017). The Effect of Impulsivity vs. Reflectivity on Reading Comprehension of Iranian EFL Learners. International Journal of Education & Literacy Studies ISSN: 2202-9478.

Smith, R. & J. Renzulli (2004). Learning Style Preference: A Practical Approach for Classroom Teachers. Theory to Practice, 23(2): 45-50.

Soltani, K., Hadidi, N., & Seifoori, Z. (2016). Iranian EFL Learners' Reflectivity/Impulsivity Styles and their Metacognitive Awareness of Reading Strategy Use across Gender. Scientific-research journal of education and evaluation, 8 (31), Pp. 103-124.

Talebi, M. (2012). The relationship between upper-intermediate Iranian EFL learners' reflectivity style and use of formulaic expressions in news summary writing. MA thesis, Azad University of Tabriz: Tabriz.

Wang, T. I., Wang, K. T., & Huang, Y. M. (2008). Using a style-based ant colony system for adaptive learning. Expert Systems with applications, 34(4), 2449-2464.

Xu, W. (2011). Learning styles and their implications in learning and teaching. Theory and Practice in language Studies, 1(4), 413-416.