Relationship between Intrapersonal Intelligence of Iranian EFL University Male and Female Learners and Their Grammar Ability

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Abstract
This study aimed to discover the possible relationship between intrapersonal intelligence and grammatical ability of Iranian EFL male and female learners. To this purpose, 139 undergraduate English students (46 males and 93 females), with the age range of 22-32, were selected through a TOEFL test as the participants. To obtain the needed data, the instruments used were a 119-item Multiple Intelligences Questionnaire (MIDAS) to assess the participants' intrapersonal intelligence, and a 30-item grammar TOEFL test to the measure their grammar ability. The obtained data were analyzed through descriptive statistics, Pearson correlation and linear regression. The difference between male and female students in grammar ability and intrapersonal intelligence was determined by independent samples *t*-test. The results indicated a statistically significance relationship between intrapersonal intelligence and English grammar ability scores. The results also revealed no significant difference between male and female students in terms of intrapersonal intelligence and English grammar ability. The findings of this study may assist language teachers, policy makers and curriculum designers to consider the role of intrapersonal intelligence as a helpful construct in learning English grammar.

Keywords: Intrapersonal intelligence, Iranian EFL male and female students, grammar learning ability

Introduction

According to Gardner (2011), intelligence is one of the individual differences involving a completely interdependent and different set of problem-solving skills enabling person to solve basic difficulties. In other words, intelligence is the ability "to identify sounds, memorize words and recognize how words function grammatically in a sentence" (Gardner, 2006, pp. 60-61).

Intrapersonal intelligence is one type of Gardner's nine multiple intelligences which "considers how skillful people are at finding out themselves" (Kelley, 2019). In fact, Individuals who have a high level of this kind of intelligence are typically introspective and can utilize this knowledge to solve personal problems (Kelley, 2019).

Grammar learning ability is viewed to involve "internal representations such as intelligence that adjust and directs performance" (McLaughlin, 1987, p.67). Students who learn

the sound, structure, and meaning system of language are able to communicate with others because they intuitively know the grammar system of that language—that is, the rules of making meaning (Erlina, D., Marzulina, L., and Astrid, A., 2019). They actually believe that grammar learning improves the development of fluency. In a sense, when students have learned grammar, it will be easier for them to know how to organize and express the ideas in their mind without difficulty. As a result, they will be able to speak, read and write the language more fluently.

Purpose of the Study

One of the most fundamental questions in research on foreign language learning for many language teachers is to understand the reason why some university language students are successful in mastering grammar whereas others fail to do so. In order to find out the role of individual differences between Iranian EFL male and female learners, especially in terms of intelligence, the present study aimed at considering the possible relationship between their intrapersonal intelligence and their grammar competence. Thus, the following two research questions were addressed:

RQ1. Is there any relationship between intrapersonal intelligence of Iranian EFL male and female learners and their grammar learning ability?
RQ2. Is there any differences between Iranian EFL male and female learners in terms of their intrapersonal intelligence and grammar competence?

Review of Literature

Multiple Intelligences Theory (MIT)

Multiple Intelligences Theory (MIT) offers a complex perspective of students' individual differences. According to Armstrong (2008, p. 69), such differences are found out "as personal tools each human possesses to make sense out of innovative knowledge and to acquire it in such a way that it can be simply took back when required for use". He adds that students have different ways to involve meaning and empower memory pathway. It is a tool that can develop the attractiveness of language learning assignments. It "makes suitable motivational conditions in language use" (Armstrong, 2018, p. 22). He further states that there are four key points which are crucial to consider. One is that each individual has all the eight intelligences but differently. By giving the proper improvement and impulse, they can be improved. These intelligences "work together in complicated ways, and in order to be intelligent there are many suitable ways" (Armstrong, 2008, p.69). Smith (2001) states that multiple intelligences develop a framework which helps to explain individual variations in adult second language learning proficiency.

Greenhawk (2006, p. 63) believes that MI theory helps "learners perceive their capacities as students, take risks in education and acquire more information. It helps teachers begin unforgettable learning experiences and consider student knowledge better". He adds that this theory is a practice in finding out your own academic needs. Understanding these needs gives the power to learners develop intelligences that are not as prominent (Aborn, 2006). The environment in the MI classroom is a place in which learners feel safe and view themselves as a member of a community where they require each other (Moron, Kornhaber and Gardner, 2006). In MI theory, students do their best and extent their own methods of learning (Borek, 2003). Eisner (2004) states that Gardner's theory of multiple intelligences provides a significant contrast to the modes of mind that have traditionally been used to understand how people think and make intelligence choices. Mbuva (2003) suggests that MI theory is an effective teaching and learning tool at all levels. In sum, MI pedagogy concentrates on second or foreign language class as the context for a

series of instructional assistant methods aimed at making learner a better organizer of his/ her learning experiences. This learner is both better enabled and more performed than a learner in traditional classrooms (Richards & Rodgers, 2001).

Intrapersonal intelligence

Intrapersonal intelligence is one type of multiple intelligences which is used to reflect on monitoring one's thoughts and weaknesses in intrapersonal relationships (Gardner, 2006). It is the ability which is at work when one thinks about and find outs one's self (Gardner, 2011). Learners who have well-developed this intelligence understand feelings, fears and motivations such as philosophers, leaders, psychologists, and the English language teachers who need it more than others (Gardner, 2006). Intrapersonal intelligence is the capacity to understand and employ one's talent prosperously, which directs to happy and well- regulated people in all areas of their life (Richards & Rodgers, 2001).

In Armstrong's (2018) point of view, learners who have high levels of intrapersonal intelligence "have great self- knowledge and information" (p.22). They also "have a detailed picture of themselves" (p. 22). To Armstrong (2018,) these learners are able to be aware of their strengths and weaknesses as well as their feelings, passions, excitements, motivations, desires, and intentions. These intelligent individuals "are good at setting aims for themselves" (p.22). They are "good at planning, reflecting on their work and choosing to work by themselves" (p.22). Shearer (1996) proposes that students with high levels of intrapersonal intelligence ask when they learn best, ask how to agree or disagree with their past experiences. They would like to ask why it is important for them to know. These intelligent students "would like to work alone and are interested in stopping to reflect on it" (Shearer, 1996, p.43). These individuals have this ability to learn well when they test. They will be a better student by learning (Shearer, 1996).

Wheeler (2009) claims that students who possess intrapersonal intelligence are interested in acting a set of activities in classrooms which are perfectly different from those of the students with other types of intelligence (Behjat, 2012). These learners set an aim in the language classroom for themselves and follow it. They are independent learners and talk about their values for language learning (Behjat, 2012). Wheeler (2009) claims that learners with higher levels of intrapersonal intelligence "consider their knowledge off and on" (p. 352). In second or foreign language learning activities may be more successful when students are motivated to apply several intelligences, particularly, intrapersonal intelligence in the classroom because they help students find out new materials or concepts (Christison, 1997). Moheb & Bagheri (2013) have considered the possible relationship between multiple intelligences and writing strategies among Iranian EFL learners. The results of their study reveal that logical, kinesthetic, linguistic, and intrapersonal intelligences correlate with general writing strategies. They have found that some types of intelligences of females had relationship with some writing strategies while in the male group this relationship was absent.

Shayeghi and Hosseinioun (2015) in their study investigated the relationship between Iranian EFL learners' multiple intelligences and their performance on grammar. The results of this study revealed a significant positive correlation between grammatical accuracy and linguistic as well as interpersonal intelligence.

Shafiee, Mobini, Namaziandost and Ghodoosi (2020) conducted a study on the contribution of multiple intelligences to L2 writing of EFL learners. The results of this study showed that certain types of multiple intelligences such as musical, logical and intrapersonal intelligences could significantly account for the grammar of written productions. The results of this study also revealed that EFL learners' spelling was influenced by logical, musical, existential, and interpersonal intelligences.

In order to investigate the relationship between linguistic intelligence of Iranian undergraduate EFL learners and their performance on grammar, Ahamadian and Hosseini, 2012) considered this relationship between linguistic intelligence of EFL learners and their writing performance. The results revealed a significant relationship between linguistic intelligence and grammar performance. This study also indicated that among all multiple intelligences, only linguistic intelligence was the best predictor of writing performance. Saricaoglu and Arikan (2009) investigated the relationship between multiple intelligences and gender differences of students in learning grammar, listening and writing in English as a foreign language. The results of this study revealed a positive relationship between multiple intelligences and language learning. The results also showed no significant difference between male and female students in terms of multiple intelligences and grammar learning, listening and writing except linguistic intelligence. Also, in a study on the relationship between multiple intelligences and language proficiency, Razmjoo (2008) found that the use of intrapersonal intelligence by females was higher than that of the males whereas no significant difference was found between male and female participants regarding language success and types of intelligences.

In reality, what it can be understood from all the previously-conducted research is that learning grammar is impossible without multiple intelligences, because intelligence is the basis of learning and teaching. In other words, the effectiveness of learning and teaching grammar is conditioned by the degree of the different intelligences. Therefore, it is an accepted fact that students with high intrapersonal intelligence are easier to teach or to direct and guide than students with low intrapersonal intelligence

Methodology

Participants

The population of the present study comprised 200 EFL university students chosen from different universities in Iran. They were majoring in English language teaching. The age range of them was 22 to 32. They were both male (N=61) and female (N=139) English language students at undergraduate level. After scoring their grammar papers on TOEFL proficiency test, those students whose score was one standard deviation above or below the mean were selected as the participants (46 males and 93 females).

Instruments

In order to collect the data, the Multiple Intelligences Questionnaire (MIDAS) and a test of English as a Foreign Language (TOEFL) were administered.

1.Multiple intelligences Development Assessment Scale (MIDAS)

The Multiple Intelligence Development Assessment Scale (MIDAS) consists of a 119 item that is divided into eight sub-divisions including linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, interpersonal, intrapersonal and naturalist intelligences. The participants were asked to response their abilities on a scale of 1 to 6, with 1="No", 2="Little", 3="To some extent", 4= "Very", 5="Very much" and, 6= "I do not know". The Alpha reliability of questionnaire in the present study collectively was found 87.

2.Grammar TOEFL Test

This test consists of two sections: section one includes structure and written expression items (30 multiple- choice questions). Section two, consists of twenty five reading comprehension questions. Each part has its own characteristics and is intended for a different purpose. Therefore, all participants of the study were asked to answer only grammar part of the

questions which were aimed to measure grammar proficiency knowledge. This test was used to check the homogeneity of the participants in this study.

Procedures

After familiarizing the participants with the goals of the present study, the Multiple Intelligence Questionnaire (MIDAS) was distributed to evaluate the intrapersonal intelligence of the students. To measure grammar learning ability and to check the homogeneity of the participants, a TOEFL proficiency test was administered. The participants were asked to answer only grammar questions part. After gathering grammar scores and calculating the mean and standard deviation, to choose a homogeneous group of participants, students whose score was one standard deviation above or below the mean were selected (46 males and 93 females). Finally, descriptive statistics, correlation analysis, and linear regression were run to discover possible relationship between intrapersonal intelligence as an independent variable and grammar learning ability as a dependent variable. Then, an independent sample *t*-test was used to consider the difference between male and female students in terms of their intrapersonal intelligence and English grammar competence.

Results

To answer the posed research questions of the study, descriptive statistics, Pearson Correlation, and independent sample *t*-test were utilized. The results appear in the following tables:

Table 1

Descriptive statistics and correlation analysis for grammar and intrapersonal intelligence

Variable	Mean	±SD	Skewness	Kurtosis	Minimum	Maximum	N
LIL	3.5	1.63	-.057	-1.16	1	6	139
LOL	3.39	1.69	.1	-1.23	1	6	139
SPI	3.21	1.52	.304	-1.06	1	6	139
MUI	3.4	1.54	.19	-.99	1	6	139
BOI	3.47	1.52	.075	-1.12	1	6	139
INTERI	3.65	1.58	-.038	-1.05	1	6	139
INTRAI	3.35	1.51	.32	-.933	1	6	139
NAI	3.79	1.5	-.189	-.996	1	6	139
GM	13.83	.83	.33	-1.48	13	15	139

Note: GM= Grammar; LII=Linguistic Intelligence; LOI=Logical Intelligence; SPI=Spatial Intelligence; MUI=Musical Intelligence; BOI=Bodily Intelligence; INTERI=Interpersonal Intelligence; INTRAI=Intrapersonal Intelligence; NAI=Naturalist Intelligence.

As it can be seen in Table 1, the intrapersonal intelligence group's mean is 3.35. To consider the degree of the relationship between grammar ability and intrapersonal intelligence, a correlation coefficient was run (Table 2).

Table 2

Descriptive statistics and correlation analysis between grammar and intrapersonal intelligence

	GM	LII	LOI	SPI	MUI	BOI	INTERI	INTRAI	NAI
GM									
LII	**.78 *.001								
LOI	**.11 *.22	**.14 *.07							
SPI	**.07 *.44	**.17 *.05	**.19 *.02						
MUI	**.02 *.83	**.12 *.15	**.03 *.72	**.03 *.75					
BOI	**.68 *.001	**.703 *.001	**.18 *.03	**.03 *.71	**.01 *.99				
INTERI	**.05 *.14	**.02 *.79	**.02 *.77	**.17 *.04	**.19 *.02	**.04 *.66			
INTRAI	****.64 *.001**	**.62 *.001	**.18 *.03	**.01 *.88	**.04 *.61	**.67 *.001	**.09 *.27		
NAI	**.08 *.34	**.09 *.29	**.14 *.11	**.07 *.39	**.02 *.79	**.09 *.26	**.34 *.53	**.02 *.82	

***The amount of correlation*
** Significance level*

Based on Table 2, it can be stated that intrapersonal intelligence have a positive relationship with grammar learning ability (*P=0.64*). In order to understand the extent to which intrapersonal intelligence account for the variance in grammar, regression analysis was conducted (Table 3).

Table 3
Coefficient determination analysis Model

Model	R	R Square	A- R Square	Std. Error	D-Watson
1	.814[a]	.662	.641	.499	1.64[b]

Note: Predictors: (Constant) intrapersonal intelligence

This table shows the value of the model is 0.66. This means that about 66% of English language learning changes by the model will be explained. To test the first research question of the present study and see if there is a relationship between intrapersonal intelligence and grammar learning ability, and to see the significant of the mode, the ANOVA procedure was run (Table 4).

Table 4
ANOVA ON Grammar Test

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	63.49	8	7.93	**31.86**	.000[b]
	Residual	32.38	130	.249	-	-
	Total	95.86	138	-	-	-

a. Dependent Variable: Grammar

b. Predictors: (Constant) Intrapersonal intelligence

In order to show the extent to which intrapersonal intelligence accounts for the variance in grammar, the standardized coefficients and the significance of the observed *t* value for intrapersonal intelligence were used (Table.5).

Table 5
Linear regression coefficient related to grammar learning ability and intrapersonal intelligence

Model	Independent Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
GM Scores	**(Constant)**	12.21	.27	----------	45.2	.001
	LII	.293	.04	.574	7.39	.001
	LOI	-.028	.026	-.057	-1.06	.29
	SPI	.014	.028	.027	.507	.61
	MUI	.024	.029	.043	.817	.41
	BOI	.085	.045	.356	3.89	.001
	INTERI	.001	.028	.001	-.006	.32
	INTRAI	.1	.042	.282	2.41	**.017**
	NAI	-.018	.029	-.033	-.63	.53

Based on table 5, intrapersonal intelligence has a positive significant relationship with learning grammar ability. It indicates that for every one's standard deviation change in one's intrapersonal intelligence, there will be about 0.28 of a standard deviation change in one's grammar learning ability. Therefore, according to Beta Standardized Coefficients, intrapersonal intelligence has a positive relationship with grammar learning ability.

To answer the second research question of the study, an independent sample *t*-test was run and the means of males and females were compared (Table 6).

Table 6

Analysis of the second research question using independent sample t-test

Variable	Gender	Mean±SD	t-test	Sig.
LII	**M**	4.04 ±1.43	1.81	.11
	F	3.97 ±1.66		
LOI	**M**	3.37 ±1.73	-.13	.89
	F	3.41 ±1.68		
SPI	**M**	3.17 ±1.68	-.18	.86
	F	3.23 ±1.47		
MUI	**M**	3.35 ±1.61	-.29	.77
	F	3.43 ±1.51		
BOI	**M**	3.81 ±1.45	1.85	.07
	F	3.31 ±1.53		
INTERI	**M**	3.5 ±1.24	-.81	.42
	F	3.73 ±1.73		
INTRAI	**M**	3.5 ±1.54	1.05	.29
	F	3.26 ±1.49		
NAI	**M**	3.54 ±1.54	-1.61	.11
	F	3.26 ±1.49		
GM Scores	**M**	13.98 ±.86	1.51	.13
	F	13.75 ±.82		

Based on Table 6 above, there is no significant difference between intrapersonal intelligence and grammar learning ability in terms of gender. The results in this Table also show that the significant level for intrapersonal intelligence is more than 0.05. It can thus be inferred that there is no significant difference between males and females concerning intrapersonal intelligence and grammar learning ability**.**

Discussion

The results of the present study revealed that there is a positive relationship between intrapersonal intelligence and grammar learning ability of EFL learners. The significant level of this relationship is 0.64, less than 0.5. Accordingly, this study proves that intrapersonal intelligence is used to reflect on monitoring one's thoughts and weaknesses in intrapersonal relationships. In a sense, it is the ability which is at work when one thinks about and find out one's self (Gardner, 2006). The results of the study are fully in line with those of Moheb and Bagheri (2013), Shayeghi and Hosseinioun (2015), Ahmadian and Hosseini (2012), and Shafiee, Mobini, Namaziandost and Ghodosi (2020).

The results also show that learners who possess intrapersonal intelligence are interested in acting a set of activities in classrooms which are perfectly different from those with other types of intelligence (Behjat, 2012). In other words, the effectiveness of learning grammar is conditioned by the degree of the different intelligences. More precisely, learners with high intrapersonal intelligence are easier to teach or to direct and guide than students with low intrapersonal intelligence. (Tables 3, 4 and 5). Further, the results of the independent sample *t*-test show that there is no significant difference between male and female learners with respect to

intrapersonal intelligence and grammar learning. The results also approximate previous studies such as Saricaoglu and Arikan (2009) who investigated the relationship between multiple intelligences and gender differences of students in learning grammar, listening and writing in English as a foreign language. The result are also in line with those of Razmjoo (2008) who found that there is no significant difference between male and female participants regarding language success and types of intelligences (Table 6). Connecting this finding to Armstrong's point of view (2018), it can be claimed that learners who have high levels of intrapersonal intelligence have great self- knowledge and information. They also have a detailed picture of themselves. They are able to be aware of their strengths and weaknesses as well as their feelings, passions, excitements, motivations, desires, and intentions. In other words, grammar learning ability is viewed to involve internal representations such as intelligence that adjust and directs performance (McLaughlin, 1987). This means that learners who learn the sound, structure, and meaning system of language are able to communicate with others because they intuitively know the grammar system of that language (Erlina, 2019).

Conclusions

The present study aimed to inspect the relationship between intrapersonal intelligence of Iranian male and female university students and their grammar learning ability. The results obtained from data analysis proved that there is a positive relationship on the one hand, and that there is no significant difference between male and female students in terms these two variables on the other hand. The results also proved that the learners who have a higher level of intrapersonal intelligence learn grammar better than those who have a lower level of this type of intelligence. More precisely, possessing a good degree of intrapersonal intelligence provides the learners with a new way to look at their own performance on whatever they are learning, and to examine the potentials that they leave behind their behavior in the classroom. So, in reality, intrapersonal intelligence seems to be one of the most effective learning and teaching tools. Hence, English language instructors should know how to utilize their students' intrapersonal intelligence and motivate them to enhance their grammatical capacity concerning their communicative performance in foreign language learning situations.

As a final word, the findings of this study have some important implications in English grammar learning. For example, using intrapersonal intelligence provides a way of understanding that intelligence is more sensible and practical in teaching and learning. They also provide English teachers with profound perception of their students so as to construct more appropriate learning activities for them, which meet their needs in learning English.

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