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Multiple Intelligence and EFL Learners' Reading Comprehension *

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Abstract

The second half of the twentieth century can be called the age of individualization when individual values and differences are recognized and respected. Intelligence is among the various aspects of individual differences which affect education and language learning. As such, the present study aimed at investigating the relationship between Multiple Intelligence and Reading Comprehension Abilities of Iranian EFL learners. For the purpose of study, 117 senior English students were randomly selected. After administering two types of instruments including MIDAS Adults (Shearer, 1996) and Reading Comprehension Section of TOEFL (2005, Longman), the data were collected and analyzed. The results indicated that all types of the learners' MI profile have significant relationship with the reading comprehension scores and the Verbal-Linguistic Intelligence is the most significant predictor of the learners' reading comprehension abilities, while Visual-Spatial and Interpersonal Intelligences are the second and third predictors of the learners' reading comprehension respectively. Furthermore, Intrapersonal and Kinesthetic Intelligences could not predict the reading comprehension of the learners.

Keywords: Multiple Intelligence, Verbal Intelligence, Visual Intelligence, Interpersonal Intelligence, Musical Intelligence, Kinesthetic Intelligence, Reading Comprehension

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Introduction

Intelligence is among the various aspects of individual differences which affect education and language learning. The interest in the effect of intelligence can be attributed to the advent of a new intelligence theory proposed by Howard Gardner (1983), namely Multiple Intelligences Theory (MIT). Gardner defined intelligence as “the ability to find and solve problems, the ability to respond successfully to new situations and the capacity to learn from one’s past experiences” (Gardner, 1983, p. 21). Henceforth, intelligence is viewed as being a composite of different abilities or aptitudes.

On the other hand, students can learn to read more easily than they can acquire any other skills. It is a source of great pleasure for people all over the world. Through reading people can be informed and can increase their understanding of the globe. Reading is not only aimed at providing information and pleasure to the reader, but it also helps extend one’s knowledge of the language. Non-native speakers of English can use reading materials as the primary source of input as they learn the language. They not only gain rapid and easy access to the historical and cultural conventions of English native speakers but to the real and live language as well.

Reading is one of the basic skills acquired during a language course which grants the learners the greatest ability at the end of the language course. While most of the information people receive from their environment is acquired through reading, some researchers claim that foreign language learners who seem to suffer from imperfect knowledge of language are more likely to have problems in their reading comprehension. Numerous research studies have already been conducted to shed light on the hidden dimensions of the reading, though foreign language learners of English often have problems in absorbing the written material and as a result reading becomes a laborious and painful task.

To find out what reading is, one should turn not only to linguistics but also to psycholinguistics and psychologists who have long been involved in investigating the reading process. Reading is a psycholinguistic process and it starts with a linguistic surface representation encoded by a writer and ends with a meaning which the reader constructs.

It is assumed that one possibility to address such problems in regard to EFL reading classes can be the use of an MI-inspired method that focuses on learners' individual cognitive differences and engaging the students in their learning and making them responsible for how they demonstrate their knowledge. Teaching through multiple intelligences theory may increase motivation and achievement in classroom assessments. Therefore, multiple intelligences approach which tries to tap their different intelligences allows students to show their strengths and perform adequately on a range of tasks.

The way of teaching reading is very important. Students should be offered opportunities to understand the learning process and taught the MI theory so that they can effectively choose techniques by which to learn. Teachers can design activities and projects around the intelligences and allow their students to choose their learning activities based on their strengths. Students read better, when they expect to do so, and it is up to the teacher to access their individual expectations through their multiple intelligences. MI-inspired construction and curriculum and the use of strength-based (on the basis of their MI profiles) learning activities can be used to further students' success and enhancement in reading comprehension because such a curriculum and learner-centered activities serve as the basis for personalized planning.

Research Questions and Hypotheses

On the basis of the above mentioned problem, the present study enquires into the hypothesized interaction between subjects' multiple intelligences and their performance on reading comprehension. Hence, to come up with the satisfactorily results, the researcher formulated the following null hypotheses:

- H₀₁: There is no relationship between Iranian EFL learners' MI profiles and their reading comprehension abilities.
- H₀₂: There is no relationship between Iranian EFL learners' Logical-Mathematical Intelligence and their reading comprehension abilities.
- H₀₃: There is no relationship between Iranian EFL learners' Linguistic Intelligence and their reading comprehension abilities.

- H₀₄: There is no relationship between Iranian EFL learners' Interpersonal Intelligence and their reading comprehension abilities.
- H₀₅: There is no relationship between Iranian EFL learners' Intrapersonal Intelligence and their reading comprehension abilities.
- H₀₆: There is no relationship between Iranian EFL learners' Musical Intelligence and their reading comprehension abilities.
- H₀₇: There is no relationship between Iranian EFL learners' Bodily-Kinesthetic Intelligence and their reading comprehension abilities.
- H₀₈: There is no relationship between Iranian EFL learners' Visual-Spatial Intelligence and their reading comprehension abilities.
- H₀₉: There is no relationship between Iranian EFL learners' Naturalistic Intelligence and their reading comprehension abilities.
- H₀₁₀: None of the multiple intelligences or combination of them can predict Iranian EFL learners' reading comprehension ability.

Multiple intelligences can be a more effective method in facilitating students' achievements in reading comprehension. MI-based method can provide opportunity for students to express and demonstrate their inner potentials and talents in many different ways. MI-based reading activities can help teachers to train effective readers who will be able to demonstrate good reading habits, understand the author's tone, comprehend different ideas, read critically, and to summarize what they have read.

Moreover, based on the stated problem and the researcher's hypothesized solution of utilizing Gardner's theory of multiple intelligences, the present study aimed at investigating the hypothetical relationship between the Multiple Intelligences of the subjects and their performance on the reading comprehension section of TOEFL. If the results of the study show that there is such a significant correlation between the two variables, then those people involved in EFL teaching, learning, materials providing, and assessment, could benefit

and utilize MI through the curriculum in order to be able to make educationally more satisfying and rewarding decisions.

In the beginning of the twentieth century because of the necessity for international communication, foreign language teaching and learning achieved a prominent role in man's everyday life. Hence, reading in a foreign language has been the focus of attention in the pedagogic curriculum. Travers (qtd. in Brindley, 1994, p. 92) maintains "Not only does our education system demand a lot of reading in the process of learning, it also tends to use the capacity to read fluently as an indicator of more general intellectual ability". Furthermore, reading is closely linked to the other language learning skills. Usually in a communicative process, the participants either convert the linguistic message to thought or convert their own thought to written or spoken codes.

Furthermore, MI is proposed and put into practice in a way to call an alternative classroom design to traditional classroom setting. By a balanced attention paid to the students' different intelligence types and individual differences in learning styles and strategies, and the various ways of demonstrating their abilities, the teachers can use the students' strong and more flourished intelligence types in an effective use of MI-based materials and activities to enhance their learning while strengthening their weaknesses. MI theory helps teachers to develop reading strategies that will appeal to some of Gardner's intelligence types. Using MI as a tool also creates a pleasant and an interesting atmosphere in the classroom so that students enjoy reading task. MI theory also provides teachers with techniques that can be readily used with students of varied talents.

Consequently, it seems that multiple intelligences can be a more effective method in facilitating students' achievements in reading comprehension. MI-based method can provide opportunity for students to express and demonstrate their inner potentials and talents in many different ways. MI-based reading activities can help teachers to train effective readers who will be able to demonstrate good reading habits, understand the author's tone, comprehend different ideas, read critically, and summarize what they have read (Shearer, 2006).

Therefore, the researcher assumes that by applying MI techniques on the basis of the relationship between their MI profiles and their

reading comprehension abilities, the teacher can motivate EFL students to be active readers and improve their reading ability and the most rewarding, enjoy their reading classes.

Literature Review

Multiple Intelligence is a theory that makes it possible for more students to succeed in class. As suggested by Gardner, the multiple intelligences theory teaches that all students are smart but in different ways. “Teachers and principals are finding that using multiple intelligences not only increases the opportunities for students to learn, but also gives adults and children more avenues and ways to grow professionally and personally” (Hoerr, 2001, p. 34; qtd.in Kuzniewski, et al., 1989, p. 20).

Most researchers agree that reading is not limited to a single facet which they are examining. In fact, all researchers are convinced that reading is a multifaceted process that goes beyond the description of any single facet (Celce-Murcia, 2001). According to Shearer (2006), differentiated instruction for struggling readers often involves the use of reading materials in which they have “high interest”. MI-inspired instruction, however, goes beyond mere “interests” in an attempt to activate alternative, perhaps stronger thinking skills. On the basis of his study, Shearer (2006) concludes that there are educational and curriculum implications from the findings that “support an MI-inspired differentiated instructional approach and provide guidance for a nuanced design of reading curriculum”.

Moreover, Mettetal, Jordan, and Harper (1997, p.115) investigated the impact of a MI curriculum in an elementary school. On the basis of the data, three themes emerged: “(a) students, teachers, and parents were very positive about the concept of Multiple Intelligences; (b) They were positive about school-wide implementation, including flow time, activity room, and enrichment clusters; and (c) classroom implementation of MI concepts was uneven across classrooms” (qtd. in Razmjoo, 2008, p. 156).

According to Gaines and Lehmann (2002, p. 59), based on the presentation analysis of the data on reading comprehension scores, the results showed a marked improvement in reading comprehension in English. They stated that the variety of MI interventions provided

different ways in which students could use their intelligences to their advantage when planning and pursuing their future.

The results of a study conducted by Saricaoglu and Arikan (2009) showed that logical-mathematical intelligence was the leading intelligence among the intermediate level participants. The other dominant intelligence types were spatial, bodily-kinesthetic, interpersonal and intrapersonal intelligences. Furthermore results showed that there is a low positive relationship between writing scores and musical intelligence.

In another study attempted by Razmjoo, Sahragard and Sadri (2009), the findings revealed that there is relationship between MI and vocabulary learning knowledge, that is, verbal-linguistic intelligence is the greatest predictor of vocabulary learning knowledge.

Shearer (2006) examined the differences in multiple intelligences (MI) profiles of high school students with varying levels of reading skill. Significant differences were found in four main MI scales (linguistics, logical-mathematical, interpersonal, and intrapersonal) and a range of specific skills among high, moderate and low reading skill groups. The high reading group was found to be more individual achievement-oriented and the moderate group has strengths in the more socially focused realms and the low readers more pragmatic, practical, and action-oriented.

An action research project by Kuzniewski, et al (1989) incorporated 'multiple intelligence strategies' combined with 'cooperative learning techniques' in English and Math units. Post intervention data indicated an increase in student reading comprehension skills in English and Math, and an increase in student learning expectations.

Method

Participants

One hundred seventeen subjects studying English Language Teaching, English Translation, and English Literature, for BA and MA degrees, were randomly selected from the whole adult population of about 600 Iranian EFL learners at Payame Noor University-Tabriz. The researcher selected the participants from among senior students in order to be sure that they have passed some basic reading courses in English.

Instrumentation

Considering the purpose of the research, two instruments of research were manipulated to obtain as valid information as possible. To obtain an estimate of the participants' performance in each of the intelligences posited by Gardner (1983), Multiple Intelligences Developmental Assessment Scales (MIDAS, developed by Shearer in 1996) was used. Moreover, in order to measure the participants' English reading comprehension ability, Reading Comprehension Section of TOEFL (Longman, 2005) was employed. In order to validate and standardize the reading test, a pilot study with 28 students majoring in English at Payame Noor University, Tabriz Center was run.

Procedure

After selecting a random sample of 117 Iranian senior EFL students, the researcher conducted the present survey by administering two instruments of MIDAS to assess the subjects' MI profiles and TOEFL Reading Comprehension Section to measure the subjects' reading comprehension ability.

Results

TOEFL Test

Regarding the purpose of the study, reading comprehension section of a TOEFL test was employed. Validating the criterion test used to identify abilities of subjects on reading comprehension study was of great importance. The KR-21 formula was employed to measure the degree of reliability of the TOEFL. The results are displayed in Table 1.

Table 1. *KR-21 Reliability of the TOEFL*

	N	Mean	Variance	KR-21
Reading Comprehension (Pilot)	28	22.62	59.76	0.81
Reading Comprehension	117	28.77	103.44	0.90

MIDAS Adults

After the administration of the MIDAS Questionnaire, 117 papers were collected and scored. The reliability of the questionnaire is shown on table 2.

Table 2 .*KR-21 Reliability of MIDAS*

	N	Mean	Variance	KR-21
MI	117	279.97	4672.551	0.98
Music	117	30.51	70.890	0.82
Kinesthetic	117	25.99	94.853	0.88
Logical	117	31.74	158.365	0.91
Visual	117	34.85	52.660	0.73
Verbal	117	52.77	167.851	0.90
Interpersonal	117	50.48	131.907	0.90
Intrapersonal	117	28.21	17.807	0.68
Naturalist	117	25.30	109.505	0.90

Testing the Hypotheses

The results of table 3 indicate that there was a significant relationship between Iranian EFL learners' MI profiles and their reading comprehension abilities ($r(115) = .91$, $P < .05$, representing a large effect size). Thus the first null-hypothesis **was rejected**.

Table 3. *Pearson Correlation, MI with Reading Comprehension*

		RC
	Pearson Correlation	.913**
MI	Sig. (2-tailed)	.000
	N	117

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

In table 4, it is shown that there was a significant relationship between Iranian EFL learners' Logical-Mathematical Intelligence and their reading comprehension abilities ($r(115) = .89$, $P < .05$, representing a large effect size). Thus the second null-hypothesis **was rejected**.

Table 4 .*Pearson Correlation, Logical-Mathematical Intelligence with Reading Comprehension*

		RC
	Pearson Correlation	.894**
Logical	Sig. (2-tailed)	.000
Mathematical	N	117

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

As illustrated in table 5, there was a significant relationship between Iranian EFL learners' verbal and Linguistic Intelligence and their reading comprehension abilities ($r(115) = .93$, $P < .05$, representing a large effect size). Thus the third null-hypothesis **was rejected**.

Table 5 .*Pearson Correlation, Verbal and Linguistic Intelligence with Reading Comprehension*

		RC
Verbal	Pearson Correlation	.938**
	Sig. (2-tailed)	.000
Linguistic	N	117

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

By table 6, it is indicated that there was a significant relationship between Iranian EFL learners' Interpersonal Intelligence and their reading comprehension abilities ($r(115) = .91$, $P < .05$, representing a large effect size). Thus the fourth null-hypothesis **was rejected**.

Table 6 .*Pearson Correlation, Interpersonal Intelligence with Reading Comprehension*

		RC
Interpersonal	Pearson Correlation	.916**
	Sig. (2-tailed)	.000
	N	117

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

Regarding table 7, it is inferred that there was a significant relationship between Iranian EFL learners' Intrapersonal Intelligence and their reading comprehension abilities ($r(115) = .89$, $P < .05$, representing a large effect size). Thus the fifth null-hypothesis **was rejected**.

Table 7 .*Pearson Correlation, Intrapersonal Intelligence with Reading Comprehension*

		RC
Intrapersonal	Pearson Correlation	.890**
	Sig. (2-tailed)	.000
	N	117

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

As indicated in table 8, there was a significant relationship between Iranian EFL learners' musical Intelligence and their reading comprehension abilities ($r(115) = .84$, $P < .05$, representing a large effect size). Thus the sixth null-hypothesis **was rejected**.

Table 8 .*Pearson Correlation, Musical Intelligence with Reading Comprehension*

		RC
Musical	Pearson Correlation	.846**
	Sig. (2-tailed)	.000
	N	117

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

Table 9 displays that there was a significant relationship between Iranian EFL learners' Bodily-Kinesthetic Intelligence and their reading comprehension abilities ($r(115) = .49$, $P < .05$, representing an almost large effect size). Thus the seventh null-hypothesis **was rejected**.

Table 9.*Pearson Correlation, Bodily Kinesthetic Intelligence with Reading Comprehension*

		RC
Bodily Kinesthetic	Pearson Correlation	.490**
	Sig. (2-tailed)	.000
	N	117

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

The results of table 10 assumes that there was a significant relationship between Iranian EFL learners' Visual-Spatial Intelligence and their reading comprehension abilities ($r(115) = .88$, $P < .05$, representing a large effect size). Thus the eighth null-hypothesis **was rejected**.

Table 10 .*Pearson Correlation, Visual-Spatial Intelligence with Reading Comprehension*

		RC
Visual Spatial	Pearson Correlation	.881**
	Sig. (2-tailed)	.000
	N	117

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

The results of table 11 approves that there was a significant relationship between Iranian EFL learners' Naturalistic Intelligence and their reading comprehension abilities ($r(115) = .60$, $P < .05$, representing an almost large effect size). Thus the ninth null-hypothesis **was rejected**.

Table 11. *Pearson Correlation, Naturalistic Intelligence with Reading Comprehension*

		RC
Naturalistic	Pearson Correlation	.608**
	Sig. (2-tailed)	.000
	N	117

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

The last part consists of the data analysis based on the last research hypothesis; i.e., H_{010} : None of the multiple intelligences or combination of them can predict Iranian EFL learners' reading comprehension ability.

As displayed in Table 12 a regression analysis through the backward methods was run to predict the subjects' performance on reading comprehension by using the eight components of the multiple intelligences. The eight multiple intelligences can predict 90.5 percent of the subjects' scores on the reading comprehension test ($R = .951$, $R^2 = .905$). On the second step and after excluding the Intrapersonal intelligence, the predictive power reduced to 90.3 percent, i.e. ($R = .950$, $R^2 = .903$). And on the third step after excluding the Kinesthetic intelligence it reduced to 90.1 percent, i.e. ($R = .949$, $R^2 = .901$).

Table 12. *Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.951 ^a	.905	.898	3.256
2	.950 ^b	.903	.897	3.265
3	.949 ^c	.901	.895	3.290

a. Predictors: (Constant), Naturalist, Kinesthetic, Logical, Intrapersonal, Music, Interpersonal, Visual, Verbal

b. Predictors: (Constant), Naturalist, Kinesthetic, Logical, Music, Interpersonal, Visual, Verbal

- c. Predictors: (Constant), Naturalist, Logical, Music, Interpersonal, Visual, Verbal
 d. Dependent Variable: RC

Table 13 indicates that the results of the ANOVA test of significance of regression model ($F(6, 110) = 166.41, P < .05, \omega^2 = .89$, representing a large effect size) indicated that the components of multiple intelligence significantly predicted reading comprehension.

Table 13. *ANOVA Test of Significance of Regression Model*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10853.976	8	1356.747	127.996	.000 ^b
	Residual	1144.793	108	10.600		
	Total	11998.769	116			
2	Regression	10836.497	7	1548.071	145.181	.000 ^c
	Residual	1162.273	109	10.663		
	Total	11998.769	116			
3	Regression	10808.066	6	1801.344	166.412	.000 ^d
	Residual	1190.703	110	10.825		
	Total	11998.769	116			

a. Dependent Variable: RC

b. Predictors: (Constant), Naturalist, Kinesthetic, Logical, Intrapersonal, Music, Interpersonal, Visual, Verbal

c. Predictors: (Constant), Naturalist, Kinesthetic, Logical, Music, Interpersonal, Visual, Verbal

d. Predictors: (Constant), Naturalist, Logical, Music, Interpersonal, Visual, Verbal

Table 14 displays the regression coefficients for the predictors which can be used to build the regression equation.

Table 14. *Coefficients*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	-15.549	3.012		-5.162	.000
	Music	-.182	.125	-.150	-1.457	.148
	Kinesthetic	-.070	.039	-.067	-1.764	.081
	Logical	.109	.066	.135	1.643	.103
	Visual	.337	.147	.241	2.291	.024
	Verbal	.392	.095	.500	4.133	.000
	Interpersonal	.208	.093	.234	2.241	.027
	Intrapersonal	.250	.195	.104	1.284	.202
	Naturalist	-.070	.041	-.072	-1.702	.092
2	(Constant)	-12.840	2.156		-5.955	.000
	Music	-.214	.123	-.177	-1.743	.084
	Kinesthetic	-.064	.039	-.061	-1.633	.105
	Logical	.115	.066	.142	1.735	.086
	Visual	.372	.145	.265	2.561	.012
	Verbal	.432	.090	.551	4.803	.000
	Interpersonal	.240	.089	.271	2.691	.008
	Naturalist	-.069	.041	-.071	-1.664	.099
3	(Constant)	-12.800	2.172		-5.892	.000
	Music	-.246	.122	-.204	-2.019	.046
	Logical	.128	.066	.158	1.924	.057
	Visual	.380	.146	.271	2.602	.011
	Verbal	.433	.091	.551	4.774	.000
	Interpersonal	.212	.088	.239	2.402	.018
	Naturalist	-.070	.042	-.072	-1.676	.097

a. Dependent Variable: RC

Table 14 displays that Verbal Intelligence is the most significant predictor of reading comprehension of Iranian EFL students. Visual Intelligence is the second significant predictor and Interpersonal is the third important predictor of reading comprehension.

Discussion

After analyzing the data collected, the results show that there is a significant relationship between Iranian EFL learners' MI profiles and their reading comprehension abilities. Moreover, the results indicate that all of the intelligence types including Logical-Mathematical, Verbal-Linguistic, Interpersonal, Intrapersonal, Musical-rhythmic, Bodily-Kinesthetic, Visual-Spatial, Naturalistic Intelligence are significantly correlated with the Iranian EFL learners' reading comprehension. Furthermore, the results reveal that the Verbal-Linguistic intelligence is the most significant intelligence type predictor of the learners' reading comprehension. Likewise, Visual-Spatial and Interpersonal Intelligences are the second and third predictors of the learners' reading comprehension respectively. Furthermore, among the different types of intelligences, Intrapersonal and Kinesthetic Intelligences could not predict the reading comprehension of the learners.

Based on the results, Verbal-Linguistic Intelligence is the most significant predictor of the learners' reading comprehension. This is in line with the explanation of Verbal Intelligence that entails using of words effectively. These learners have highly developed auditory skills and often think in words. Students with high Verbal Intelligence display a facility with words and languages. They are typically good at reading, writing, playing word games, making up poetry or stories, telling stories and memorizing words along with dates. Verbal Intelligence can be enhanced by encouraging students to say and see words, read books together.

To vindicate the relationship between Verbal Intelligence – which is most correlated MI profile with the learners' reading comprehension and the most significant predictor of their reading in the present study – and learning in general and foreign language reading comprehension in particular, Richards and Rodgers (2001) explain that once individuals accept the existence of such a construct as Linguistic Intelligence, it will be natural assumption that such an intelligence has a direct relationship with verbal and linguistic abilities. Language learning and use are obviously closely linked to what MI theorists label Linguistic Intelligence.

Hence, the findings of this research are in accordance with the Shearer's (2006) study. Based on the Shearer's (2006) research, the two lowest MI scales of learners with regard to their reading were Natural and Logical-Mathematical, while the Interpersonal Intelligence was the highest. In the present research, too, learners' Interpersonal Intelligence is the second correlated one and the third significant predictor of the learners' reading comprehension; while Natural Intelligence is the second last (seventh) correlated and the least significant predictor of the reading comprehension ability.

The findings of this research are in line with Heidari and Khorasaniha's (2013) study who claimed that a significant relationship was observed between MI and reading proficiency. Moreover, they maintained that the Visual Intelligence made the greatest contribution in predicting reading proficiency; which is, somehow, in accordance with the findings of the present study that the Visual Intelligence is the second predictor of the learners' reading comprehension.

On the other hand, Jokar and Hesabi (2014) declared that among different types of intelligences just Linguistic-Verbal, Logical-Mathematical, Spatial, and Interpersonal intelligences have statistically positive relations with the level of learners' reading skill. These findings are, somehow, in accordance with the results of the present study which claim that all types of the intelligences are correlated with the reading comprehension of the learners. Furthermore, they summed up that Linguistic-Verbal and Natural Intelligences could predict the reading skill of the learners. All over again, this result is in agreement with the finding of the present research declaring that Verbal-Linguistic Intelligence is the most significant predictor of the learners' reading comprehension.

In addition, in a study by Hashemi (2008) on the relationship between Multiple Intelligence and Reading Comprehension, she concludes that Kinesthetic and Verbal Intelligences make the greatest contribution toward predicting reading ability of the learners. This conclusion, again, is in line with the findings of the present research that Linguistic-Verbal Intelligence is most significant predictor of the learners' reading ability.

As stated before, the findings of the present study reveal that Visual-Spatial Intelligence is the second significant predictor of the learners' reading comprehension. As Gardner (1983) defines, Visual-Spatial Intelligence is the ability to perceive all the elements necessary to create a mental image of something. Accordingly, Arnold (1999) claims that mental images are present in thought and have a strong influence on reasoning (qtd. in Arnold & Fonseca, 2004). Visual-Spatial Intelligence has been considered useful for providing comprehensive input and can create and enhance meaningful comprehension.

Additionally, the findings of the Saricaoglu and Arikan (2009) and Ozdemir, Guneyisu, and Tekkaya (2006) study display that there was a low relationship between Musical Intelligence and reading abilities of learners. This finding is also similar to the present research in which the Musical Intelligence is among the least correlated profiles with reading ability (sixth one). On the other hand, despite the fact that there are some aspects of language that are of phonological/intonational type and one expects to find a relationship between musical sensitivity as it is measured by the musical component of MI and phonological aspects of language, the results of the present research show that Musical-Rhythmic Intelligence is the fourth predictor of the learners' reading comprehension and it has a negative relationship with the learners' reading comprehension; i.e., it seems that low achievers in reading comprehension may have high Musical Intelligence, and likewise better readers may have less Musical Intelligence. This negative relationship may be due to the nature of educational methodology used in Iranian EFL classes, in which music has less, if any, contribution in language teaching classroom. Similarly, this result is in line with the Hajhashemi, Akef and Anderson's (2012) research claiming that there was a statistically significant difference in the mean of the Musical Intelligence of the low achievers and the high achievers in reading which indicates that better readers may be less intelligent 'musically'. It may be in harmony with the characteristics of the introvert vs. extrovert students or their talent on musical features in that extrovert learners may have a good sense of Musical Intelligence regardless of their ability in reading comprehension.

As the results of the present study indicate Interpersonal Intelligence is the second correlated MI profile with the reading comprehension of the learners and the third significant predictor of their reading comprehension. This area has to do with interaction with others. These students learn through interaction. They have many friends, empathy for others, street smarts. Individuals who have high interpersonal intelligence are characterized by their sensitivity to others' moods, feelings, temperaments and motivations, and their ability to cooperate in order to work as part of a group. Those with high interpersonal intelligence communicate effectively and empathize easily with others, and may be either leaders or followers. They often enjoy discussion and debate. This type of intelligence can be acquired by group activities, seminars, and dialogues. Thus, it is assumed that students with higher Interpersonal Intelligence are extroverted and they know how to make use of social encounters to improve their language learning prospects. It may be concluded that good readers are those who can create comprehensive interaction with the writer in order to understand his/her points of views which have been constructed in the form of a unique world through the text.

On the other hand, the results are in line with the findings of a research by Akbari and Hosseini (2008), who claim that Linguistic and Interpersonal Intelligences are positive predictors of language strategy use. The same is true with the present study in which the Linguistic and Interpersonal Intelligences are the first and third significant predictors of learners' reading comprehension. Moreover, they declare that Kinesthetic is the negative predictor, while in the present study, this profile is not considered as the predictor of reading comprehension. The predicting nature of Interpersonal Intelligence regarding the learners' reading comprehension reveals that successful reading comprehension involves cognitive knowledge and therefore cognitive strategy use (comprehending strategy). By the same token, Phakiti (2006) explains that only comprehending strategies were found to directly influence EFL reading test performance.

To justify the low correlation of Kinesthetic Intelligence with reading comprehension, it seems that physical ability may not effectively affect Iranian EFL learning in general and their reading comprehension abilities in particular. By the same token, Akbari and

Hosseini (2008) declare that it is not surprising due to the fact that physical ability is not mentioned as one of the variables positively affecting foreign language development. Furthermore, concerning the low correlation of Natural Intelligence with reading comprehension ability, Akbari and Hosseini (2008) state that one does not expect environmental concerns to share any communalities with strategies aimed at learning an additional language.

Conclusion

On the basis of the findings of the present study, the researcher can conclude that in EFL reading classroom the possibility of motivating learners by activating multiple ways of meaning-making through the use of a large variety of intelligence related to tasks and activities, makes it rewarding to engage multiple memory pathways necessary to produce deep learning.

Concerning the most significant predictor intelligence type of reading comprehension, i.e., Verbal-Linguistic, the results lead the researcher suggest that activities (such as editing a peer's paper, giving an oral presentation, listing the strengths and weaknesses of a product, writing a eulogy, writing directions to accompany a map) that entail written and spoken words, interpretation and explanation of ideas and information via language, and understanding relationship between communication and meaning can be rewarding for their achievement in EFL reading classes, both through the teaching/learning process and assessment procedures. Furthermore, teachers are better to provide opportunities that their students can exhibit sensitivity and strength in linguistic abilities. They should encourage students to remember written and spoken information, enjoy reading and writing, debate or give persuasive speeches, be able to explain things well, and use humor when telling stories.

According to Gardner (1983), any individual could exhibit sensitivity and strength in all or some of the following linguistic abilities: word meaning, word order, word sounds, and language function. Those with verbal-linguistic intelligence learn foreign languages very easily as they have high verbal memory and recall, and an ability to understand and manipulate syntax and structure.

Regarding the second significant relationship demonstrating intelligence type, i.e., Interpersonal, teachers can help their students to

benefit most from such learning activities as pair work, group brainstorming, peer tutoring, role plays, etc. Therefore, teachers may set out their reading classes in such a way that the students can understand their perspectives and options that are highly interpersonal intelligence connected.

Educational methods such as cooperative learning and social constructivism, stresses the importance of interaction of the participants in the learning situation. As Dornnnyi and Murphey (2003) explain, “from a Vygotskian constructivist point of view, learning happens *inter-mentally* first, between minds in interaction, and only later becomes one’s own learning, *intra-mentally*” (cited in Arnold & Fonseca, 2004, p. 128).

Moreover, according to the findings of the present research, the second intelligence type which was found to predict learners’ reading comprehension is Visual-Spatial intelligence. In reading comprehension classrooms visual elements can be focused on which are especially useful for providing comprehensible and meaningful input for second language learners. In work with reading comprehension when mental images are used systematically they become a very useful learning strategy, due to the fact that visualizing while trying to understand a text is crucial for meaning making (Tomlinson, 1998; cited in Arnold & Fonseca, 2004). Thus, it can be concluded that many students also find that visual teaching aids such as charts, drawings, slides, posters, and videos enhance their coping ability in the second language because they facilitate information retrieved.

Multiple intelligences theory provides different pathways to tap the diverse students’ learning preferences. Different intelligence types are considered as learning tools and have a contribution to the learners’ success and development. Since the findings of the present study revealed significant relationship between all of the intelligence types, on the basis of the multiple intelligences theory, all of the intelligences should be activated if the aim of education is to train successful individuals in everyday life in the globalized diverse world. Hence, although in the past it was mostly used to associate the reading skill with linguistic intelligence and with distinctive brain structures in the left hemisphere, now, one can demonstrate the interplay of all of

the multiple intelligence types when it comes to process the actual experience of reading. Consequently, within a MI framework, language teachers are strongly recommended to represent all the intelligences, “while not losing sight that their purpose is to teach language (Fahim, Bagherzadeh, & Alemi. 2010, p. 5).

In addition, proponents of MI-based education identify classroom as more than a place that students simply learn facts, but instead where students learn how to learn and think critically about their learning. This enhances each individual's prospects on post-graduation because they come out with the ability to solve problem and work in a multitude of work settings. The opportunities created for post-graduation give each of the students a purpose in the classroom. Classroom, no longer is only for students going on in academia, but instead everyone is prepared to be *citizen of the world* (Carig, 2007). Specific goals and notions of such a program will be identified late in their life, but students will emerge with higher probability for success. Basically, MI-inspired instruction creates a force of critical thinking individuals prepared for the world. It can help teachers achieve this important and necessary goal by providing a MI-inspired framework the great focus of which is on problem-solving and culturally valued produce-creating.

On the other hand, learning in any classroom should involve personal development and growth in all human dimensions. For today's language classroom it is not enough solely to promote linguistic competence or even communicative competence. As quoted in Arnold & Fonseca (2004, p. 130), Gardner (1993) explains the social advantages inherent in the application of his theory:

It is of the utmost importance that we recognize and nurture all the varied human intelligences. We are all so different largely because we all have combinations of intelligences. If we recognize this I think we will have at least a better chance of dealing appropriately with the many problems that we face in the world. If we can mobilize the spectrum of human abilities, not only will people feel better about themselves and more competent; it is even possible that they will also feel more engaged and better able to join the rest of the world community in working for the broad.

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