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The Relationship between EFL Learners' Multiple Intelligences and Vocabulary Learning Strategies Use with a Focus on Gender

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***Abstract*—Over the past decade or so, Multiple Intelligences Theory (MIT) has witnessed a great deal of attention from theoreticians, researchers, and educators in the field. Accordingly, the current study was designed to examine the relationship between Iranian EFL male and female learners' MI types and their vocabulary learning strategies (VLSs) use. A total of 150 intermediate learners from an English Language Institute in Tabriz participated in this study. Two questionnaires were employed to collect the necessary data, namely, MI and VLS questionnaires. Following a range of correlational analyses, the obtained findings revealed that there was a significant relationship between participants' MI types and VLS categories, and the musical type of intelligence had the strongest relationship with SOC category of VLS. In addition, both male and female learners employed MEM and SOC categories of VLS as the most and the least frequently used strategies respectively. Finally, the obtained findings revealed that the interpersonal and linguistic types of MI were the best predictors of male learners' VLS use. For the female learners, however, the bodily and naturalist intelligences contributed significantly to the prediction of their VLS use. The results suggest implications for both educators and learners.**

***Index Terms*—Multiple Intelligences Theory (MIT), MI types, Vocabulary Learning Strategies (VLSs), VLS categories, gender**

I. Introduction

Since the introduction of the Multiple Intelligences Theory (MIT) by Gardner (1983), the role of multiple intelligences (MI) in learning, achievement and knowledge acquisition has attracted considerable attention from researchers. In Gardner's (2011) point of view, intelligence is "the ability to solve problems or to create products that are valued within one or more cultural settings" (p. xxviii). According to this theory, each individual possesses a combination of various intelligences which are quite independent of each other (Gardner, 1983, 2011). This view of intelligence challenges the general intelligence *'g'* or general factor which was dominant for many years. Gardner (1983) suggests that "the traditional notion of intelligence as measured by I.Q testing is far too limited, and there are not just two ways to be intelligent, but many ways" (p. 51).

Initially, Gardner proposed a list of seven intelligences in 1983. They are verbal-linguistic, musical-rhythmic, logical-mathematical, visual-spatial, bodily-kinesthetic, intrapersonal, and interpersonal intelligences. Later, he added two more to the list (naturalist and existential) (Gardner, 2003). Each type of intelligence is briefly explained below:

• Verbal-linguistic intelligence: This intelligence is defined by Armstrong (2009) as "the ability to manipulate the syntax or structure of language or sounds of language, the semantics or meanings of language, and the pragmatic dimensions or practical uses of language" (p. 6).

• Musical-rhythmic intelligence: This is the capacity to perceive, discriminate, transform, and express musical forms (Armstrong, 2009). This intelligence, according to Armstrong (2009), includes "sensitivity to the rhythm, pitch or melody, and timbre or tone color of a musical piece" (p. 6).

• Logical-mathematical intelligence: Gardner (1983) believes that people with strong logical-mathematical capacities have a keen sense about objects and order. According to Armstrong (2009), this intelligence includes "the understanding and use of logical structures, including patterns and relationships and statements and propositions, functions through categorization, inference, calculation, and hypothesis testing" (p. 6).

• Visual-spatial intelligence: This is the intelligence, according to McKenzie (2005), "that promotes spatial reasoning through the use of charts, graphs, tables, and illustrations" (p. 12). This intelligence allows students to form pictures of ideas and solutions to problems before putting them into verbal practice (McKenzie, 2005).

• Bodily-kinesthetic intelligence: This is the ability, as Armstrong (2009) notes, to communicate ideas and feelings using one's whole body. McKenzie (2005) says that this intelligence is "stimulated by active, physical interaction with one's environment" (p. 12).

• Intrapersonal intelligence: Gardner (2011) says this is "the capacity to access one's own feeling life" (p. 253). This intelligence allows the individual to discriminate and symbolize complicated and distinctive sets of feelings (Gardner, 2011).

• Interpersonal intelligence: This is the intelligence that is stimulated by interactions with others (McKenzie, 2005). The core capacity here, according to Gardner (2011), is "the ability to notice and make distinctions among other individuals" (p. 253).

• Naturalist intelligence: This is the "expertise in the recognition and classification of the numerous species of an individual's environment" (Armstrong, 2009, p. 7). McKenzie (2005) says this is "the intelligence of categories and hierarchies" (p. 12).

• Existential intelligence: This intelligence, as McKenzie (2005) says, allows students to have a "big picture" about the classroom, the community, and the world.

Over the past decade or so, the role of MIT and its applications to the educational settings have drawn remarkable attention from researchers (e.g., Bowles, 2008; Hajhashemi, Shakarami, Anderson, Yazdi Amirkhiz, Zou, 2013; Morgan & Fonseca, 2004). Armstrong (2003), one of the prominent educators, captured the value of MIT and argued that MIT "opens the door to a wide range of teaching strategies" (p. 72). He further accepted the individual differences among learners, and suggested that the theory of MI equips educators with an opportunity to develop innovative teaching strategies appropriate to the educational setting (2003). Therefore, MIT and its applications in the classroom can promise a fruitful contribution to teachers, learners and testers.

In the last two decades, the prominent role of vocabulary knowledge in second or foreign language learning has been recognized by learners, instructors, and researchers in the field as well (e.g., Moir & Nation, 2002; Nation, 2001; Read, 2007; Schmitt, 2000; Zeeland & Schmitt, 2013). Words are the building blocks of a language since they label objects, actions, ideas without which people cannot convey the intended meaning (Nation, 2004). Consequently, vocabulary learning strategies (VLS) have drawn a great deal of attention from the researchers in the area of language learning strategies (e.g., Barcroft, 2009; Fan, 2003; Gu, 2003; Larrotta, 2011; Takač, 2008; Tseng & Schmitt, 2008; Wu, 2008). According to Schmitt (2000), "commonly used VLSs seem to be memorization, repetition, and note-taking on vocabulary" (p. 132). He further notes that beginners often favor relatively "shallow" strategies (i.e., memorization, repetition), whereas intermediate or advanced learners can benefit from "deeper" strategies (i.e., imagery, inferencing).

Schmitt (2000) suggests that a number of variables account for the effective VLS use and teaching. These variables can include the "overall learning context, proficiency level, L1 and culture of students and the nature of the second language itself" (p. 133). Accordingly, Schmitt (2000) proposed a list of VLS which are divided into two major classes: 1) strategies beneficial for discovering a word's meaning, and 2) strategies beneficial for remembering that word after being introduced. The former group contains determination and social strategies and the latter contains cognitive, metacognitive and memory strategies. Schmitt's (2000) taxonomy on VLS is briefly explained below:

• Determination strategies (DET): these are individual learning strategies without getting any assistance from another person's experience.

• Social strategies (SOC): these are strategies which engage learners in interaction with others.

• Memory strategies (MEM): these are strategies which involve associating the new word with previous knowledge and they generally involve "elaborative mental processing that facilitates long-term retention" (Schmitt, 2000, p. 135).

• Cognitive strategies (COG): these are similar to MEM, but they are more mechanical to study vocabulary. Repeating the pronunciation of new words is an example of COG.

• Metacognitive strategies (MET): these are strategies related to processes involved in monitoring, decision-making, and evaluation of one's progress.

II. Review of the Related Literature

Quite a number of studies have been conducted to investigate the role of MIT and its applications in various educational settings in recent years. Some studies made an attempt to investigate the relationship between MI and Focus on Form (FonF) (Saeidi, 2006), listening proficiency (Mahdavy, 2008), reading strategies and proficiency (Hajhashemi, Akef, & Anderson, 2012; Zarati, 2007), writing tasks (Ahmadian & Hosseini, 2011; Saeidi & Karvandi, 2014), and learning grammar (Panahi, 2011; Zahedi & Ghabanchi, 2014). Other studies, following this line of inquiry, investigated the role of MI in foreign language classroom anxiety (Saidi & Khosravi, 2013), language learning strategies (Akbari & Hosseini, 2008; Hajhashemi, Parasteh Ghombavani & Yazdi Amirkhiz, 2011; Roohani & Rabiei, 2013), students' learning styles (Wu & Alrabah, 2009), and incidental vocabulary learning (Farahani & Latifi, 2014).

The aforementioned studies on MIT imply the significance of multifaceted style of language learning and teaching. Furthermore, a review of the literature demonstrates the paucity of exploration regarding practical applications of MIT in ESL and EFL settings (Haley, 2004).

Considering VLS and gender, however, a little attempt has been made to examine its relationship with MIT. Arjomand and Sharififar (2011), in a recent experiment, investigated the relationship between VLS and gender among 80 Iranian EFL freshman learners. They concluded that COG strategy was the most commonly used strategy whereas SOC strategy was the least frequently used one. With respect to gender, moreover, they suggested that COG/MET and SOC strategies were the most and the least commonly used ones. In congruent with this study, other studies had already

examined the relationship between VLS and gender in foreign language contexts (e.g., Sahbazian, 2004; Soodmand Afshar, 2010).

In another study, Loori (2005) explored the differences in intelligence preferences of 90 ESL male and female learners at three American universities. Using Teele Inventory MI to determine the differences in learners' preferences, Loori (2005) suggested that significant differences were evident between males and females' preferences of intelligences. Females preferred learning activities involving intrapersonal intelligence while males preferred learning activities involving logical and mathematical intelligences.

A study was conducted by Razmjoo, Sahragard, and Sadri (2009) to examine the relationship between MI, vocabulary learning knowledge and VLS among 100 Iranian EFL students who were English language teacher trainees at Shiraz Azad University. To this end, three kinds of instruments were used in this study: Nation's Levels Tests (2001), Schmitt's VLS (1997) and an MI questionnaire whose construct validity was checked through principal factor analysis. The obtained findings indicated that there is a relationship between MI and vocabulary learning knowledge. Furthermore, among different domains of intelligence, linguistic and natural intelligences made statistically significant contribution to the prediction of vocabulary learning knowledge. Moreover, stepwise multiple regression analysis confirmed the same finding. Concerning the relationship between MI and vocabulary strategies, the findings revealed that among five categories of strategies, DET, SOC and MEM strategies had a significant relationship with several domains of MI.

It is, hence, safe to argue that considerable research has been done in the realm of VLS with various variables across the countries. It appears that, to the best of our knowledge, there is a gap in exploring the relationship between MI, gender and VLS. Therefore, the present study attempted to investigate the relationship between MI types and VLS categories as well as to examine the role of gender. More specifically, the present study was set to investigate the following research questions:

1. Is there a significant relationship between learners' MI types and VLS use?
2. What are the most and the least frequently used VLSs by the male and female learners?
3. Which MI type/s is the best predictor of male learners' VLS use?
4. Which MI type/s is the best predictor of female learners' VLS use?

III. Method

A. Participants

Initially, a total of 203 learners (93 male and 110 female) from Novin English Language Institute in Tabriz participated in this research. The participants were taking an intermediate-level English course in the spring semester of 2014/04. The rationale for the selection of this proficiency level was that the inventory used in this study required an intermediate level of English for the learners to understand the content of the instrument. To select homogenous group of learners, Quick Oxford Placement Test (OPT) (version two, 2001) was administered in the second phase of the selection. The researchers managed to include 150 participants who had scored between 30-47 and 53 learners were excluded from the study due to the fact that their proficiency level was above or below the selected level in the Rank Scale of OPT test. Finally, the responses of 150 learners (75 male and 75 female) whose age ranged from 18 to 25 constituted the data set of this study.

B. Instruments

The instruments employed in the study included a quick OPT test and two questionnaires including MI and VLS. The former was used for identifying the intelligence profiles of the learners while the latter was used for determining the participants' strategies to vocabulary learning and the frequency of VLS use.

1. OPT Test

To meet the aforementioned purposes, initially, a language proficiency test including 60 items (i.e., matching, cloze passages, and multiple choice questions) was administered to ensure the homogeneity of the learners. The test items mainly focused on reading skill, grammar, and vocabulary. The participants were given 30 minutes to answer them.

2. MI Inventory

MI inventory prepared by McKenzie (1999) was utilized to elicit the intelligence profiles of the participants in this study. It consists of 90 Likert-type statements about the nine intelligences proposed by Gardner to measure the MI types of learners. According to some researchers (e.g., Al-Balhan, 2006; Razmjoo, 2008; Razmjoo et al. 2009), the overall internal consistency of the questionnaire is in a range between 0.85 and 0.90. Since the inventory included some difficult vocabulary items and grammatical structures, these items were simplified for the learners to comprehend them easily. The inventory takes about 30 minutes on average to be completed and there was no time limit. Furthermore, another separate section was added to the inventory to collect the participants' personal and background information (e.g., age and gender).

3. VLS Questionnaire

To identify the learners' strategies toward vocabulary learning and the frequency of the strategies, a VLS questionnaire designed by Schmitt (1997), was employed in this study. Schmitt's taxonomy of VLS was selected because of two reasons. First, it is the most extensive one available. Second, the taxonomy was adopted by quite a

number of studies all over the world, which allowed the findings of this study to be compared with them more easily. Schmitt's taxonomy consists of five categories (DET, SOC, MEM, and COG, MET) and 59 items with five-point Likert Scale which ranges from 1 (never) to 5 (always). The questionnaire takes about 25 minutes on average to be answered but there was no time limit. No specific modifications were made in the questionnaire except that an independent section was added to gather some background information about the participants.

C. Procedure

To collect the data, the researchers followed three stages during three weeks in 2014/04. To begin with, a total of 150 sample learners were selected from Novin English Language Institute, Tabriz, taking evening courses at intermediate level. To ensure the homogeneity of the participants and their ability to understand and complete the English version of the questionnaires, the quick OPT test was administered. From this sample, 75 male and 75 female learners participated in this study. To investigate the role of gender in VLS, an attempt was made to include equal number of learners for each group.

In the second week, stage two, the MI inventory including 90 Likert-type statements was administered to the selected participants to identify their MI profiles. In the final stage, week three, the VLS questionnaire including 59 items was administered to the participants to recognize their strategies toward vocabulary learning and the frequency of use for each strategy. After collecting the data, the descriptive and inferential statistics were conducted on the data using SPSS 18.0.

IV. Results

A. MI Types and VLS Categories

The first research question addressed the relationship between MI types and VLS categories. To answer the question, Pearson correlation coefficient was calculated to see whether there was any statistically significant correlation between MI types and VLS categories. Table 1 indicates the relationship between the two variables.

TABLE I.
PEARSON CORRELATION COEFFICIENT BETWEEN MI TYPES AND VLS CATEGORIES

MI Types	VLS Categories				
	DET	SOC	MEM	COG	MET
Linguistic	.043	.353**	.235**	.123	.076
Musical	.114	.524**	.293**	.144	.006
Logical	.015	.376**	.102	.069	.034
Visual	.174*	.312**	.302**	.163*	.349**
Kinesthetic	.134	.293**	.324**	.262**	.101
Intrapersonal	.275**	-.057	.095	.050	.231**
Interpersonal	.209*	.364**	.400**	.192*	.086
Naturalist	.068	.098	-.116	.101	-.059
Existential	.019	.296**	.321*	.135	.191*

*Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).

As illustrated in Table 1, nearly all MI types are correlated with two or more VLS categories; however, logical type of intelligence has correlation only with one VLS category (i.e., SOC). More interestingly, there is no relationship between naturalist type of intelligence with any of VLS categories. Visual intelligence, however, has correlation with all of VLS categories. In addition, the highest correlation is achieved between the musical type of intelligence and SOC category of VLS. More importantly, SOC category of VLS has a significant relationship with all MI types except intrapersonal and naturalist types of intelligences.

B. VLSs and Their Frequency

The second research question addressed the most and the least frequently used VLSs by male and female learners. To measure this, another calculation was run for the frequency of VLS categories between male and female participants. Table 3 illustrates the mean and standard deviation between male and female learners.

TABLE II.
FREQUENCY OF VLS CATEGORIES

VLS Categories		Mean	Std. Deviation
DET	Male	28.61	4.09
	Female	30.80	5.92
SOC	Male	18.62	3.69
	Female	17.94	3.47
COG	Male	27.57	5.63
	Female	31.78	23.54
MET	Male	41.66	5.39
	Female	39.04	6.97
MEM	Male	49.93	9.98
	Female	48.64	13.15
Total	Male	166.10	21.82
	Female	168.21	37.15

*Note. N=75 for males, and N=75 for females, *P < .05*

As Table 2 indicates, the most and the least frequent VLS categories employed by both male and female learners are MEM (M=49.93 & 48.64, SD=9.98 & 13.15) and SOC (M=18.62 & 17.94, SD=3.69 & 3.47) categories respectively. Totally, the female (M= 168, SD=37.15) employ more VLSs than the male (M= 166, SD=21.82).

C. MI Types and the Best Predictor in Male Group

In order to answer the third research question, a Standard Multiple Regression analysis was carried out. Prior to this, the assumptions of normality, linearity, and homoscedasticity were checked. Fig. 1 indicates the p-p plot which demonstrates no deviation from the normality assumption.

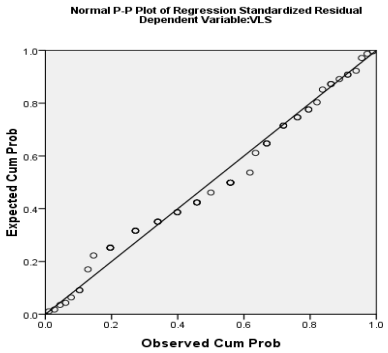

Figure 1. The p-p plot for normality

Having checked for the assumptions, a Standard Multiple Regression analysis was conducted. Table 3 indicates the means and standard deviations for the types of independent variable (i.e., MIs) and the categories of dependent variable (i.e., VLSs) in the male group.

TABLE III.
DESCRIPTIVE STATISTICS FOR MI TYPES AND VLS CATEGORIES

Variables	Mean	Std. Deviation
Naturalist	61.06	14.75
Musical	64.93	14.46
Logical	68.00	13.94
Existential	72.93	13.02
Interpersonal	71.06	17.90
Bodily	73.60	10.98
Verbal	64.40	16.86
Intrapersonal	72.93	17.22
Visual	74.53	17.65
Determination	28.61	4.09
Social	18.62	3.69
Cognitive	27.57	5.63
Metacognitive	41.66	5.39
Memory	49.93	9.98

In order to determine how much of the VLS use in male participants is explained by the predictors (i.e., MI types); the model summary is shown in Table 4.

TABLE IV.
RESULTS OF MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.76	.57	.54	14.67

Predictors: (Constant), Interpersonal, Linguistic, Logical, Musical, Bodily Intelligences
Dependent Variable: VLS

As Table 4 illustrates, 57% (R Square= .57) of the VLS use (dependent variable) is explained by the model consisting of the five predictors of interpersonal, linguistic, logical, musical, and bodily intelligences. In order to assess whether there is a significant multiple relationship between the predictors and the VLS use of male participants, it is necessary to look at the ANOVA table (See Table 5).

TABLE V.
RESULTS OF ANOVA FOR MI TYPES AND VLS

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20379.41	5	4075.88	18.92	.00
	Residual	14859.72	69	215.35		
	Total	35239.14	74			

Predictors: (Constant), Interpersonal, Linguistic, Logical, Musical, Bodily Intelligences
Dependent Variable: VLS

As Table 5 shows, there is a significant multiple relationship between the five predictors and the VLS use (p= .00). In order to determine which type/s of the multiple intelligences significantly contributes to the prediction of the VLS use of male participants, it is necessary to present the coefficient table (See Table 6).

TABLE VI.
COEFFICIENT RESULTS FOR MI TYPES AND VLS

Model		Unstandarized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	131.59	13.15		10.00	.00
	Interpersonal	.90	.12	.74	7.06	.00
	Linguistic	.89	.16	.69	5.47	.00
	Logical	-.1.01	.21	-.65	-4.83	.00
	Musical	.37	.14	.24	2.62	.01
	Bodily	-.58	.22	-.29	-2.53	.01

Dependent Variable: VLS
$P < .05$

As Table 6 shows, interpersonal type of MI contributes most significantly to the prediction of VLS in male learners (ß= .74, p= .00). This means that about 74% of the VLS use among the male participants is explained by their interpersonal type of intelligence. The second MI type which significantly contributes to the prediction of male learners' VLS use is the linguistic type of MI (ß= .69, p= .00). Also, the MI types of logical, musical, and bodily intelligences (with the P values of .00, .01, and .01 respectively) significantly predict the VLS use in male group. The interpersonal type of MI, therefore, is the best predictor of male participants' VLS use.

D. MI Types and the Best Predictor in Female Group

Similarly, another Standard Multiple Regression was carried out to answer the fourth research question. Prior to this, the assumptions of normality, linearity, and homoscedasticity were checked. Fig. 2 indicates the p-p plot which demonstrates no deviation from the normality assumption.

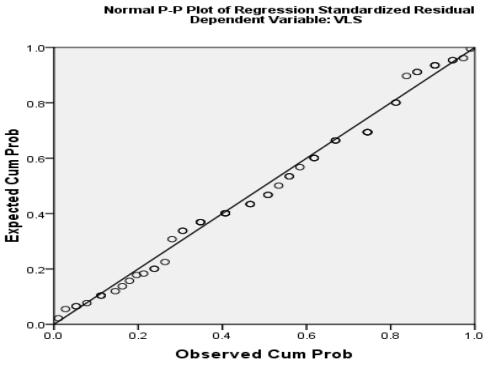

Figure 2. The p-p plot for normality

Following this, the second Standard Multiple Regression analysis was conducted for the female group. Table 7 indicates the means and standard deviations for the types MI (i.e., independent variable) and VLS categories (i.e., dependent variable) in female group.

TABLE VII.
DESCRIPTIVE STATISTICS FOR MI TYPES AND VLS CATEGORIES

Variables	Mean	Std. Deviation
Naturalist	67.86	15.00
Musical	68.66	17.65
Logical	67.20	16.72
Existential	70.53	14.41
Interpersonal	62.93	21.48
Bodily	75.33	15.27
Verbal	66.93	19.93
Intrapersonal	76.00	12.19
Visual	76.00	18.59
Determination	30.80	5.92
Social	17.94	3.47
Cognitive	31.78	23.54
Metacognitive	39.04	6.97
Memory	48.64	13.15

However, to determine how much of the VLS use in female participants is explained by the predictors, the model summary needs to be presented. Table 8 shows the results of model summary.

TABLE VIII.
RESULTS OF MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.57	.33	.30	30.93

Predictors: (Constant), Bodily, Naturalist, Visual Intelligences
Dependent Variable: VLS

As Table 8 indicates, 33% (R Square= .33) of the VLS as the dependent variable is explained by the model consisting of the three predictors of bodily, naturalist, and visual intelligences. However, in order to assess whether there is a statistically significant multiple relationship between the predictors and the female participants' VLS use, Table 9 briefly presents the results of the ANOVA for MI types and VLS categories.

TABLE IX.
RESULTS OF ANOVA FOR MI TYPES AND VLS

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34214.05	3	11404.68	11.91	.00
	Residual	67944.53	71	956.96		
	Total	102158.58	74			

Predictors: (Constant), Bodily, Naturalist, Visual Intelligences
Dependent Variable: VLS

By a brief look at Table 9, it is shown that there is a significant multiple relationship between the three predictors of MI types and the VLS categories (p= .00). Furthermore, to determine which type/s of the multiple intelligences significantly contributes to the prediction of the VLS use of female participants, the coefficient table is presented below.

TABLE X.
COEFFICIENT RESULTS FOR MI TYPES AND VLS

Model		Unstandarized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	102.40	20.37		5.02	.000
	Bodily	1.08	.29	.44	3.68	.000
	Naturalist	-1.06	.29	-.43	-3.62	.001
	Visual	.742	.232	.371	3.194	.002

Dependent Variable: VLS
$P < .05$

As Table 10 illustrates, bodily (ß= .44, p= .000) and naturalist (ß= -.43, p= .001) intelligences of MI types contribute most significantly to the prediction of VLS use in female learners. This means that about 44% and 43% of the VLS in female learners are explained by their bodily and naturalist types of their intelligence respectively. Visual intelligence of MI type (ß= .37, p= .002), however, is the least predictor of female learners' VLS. The bodily type of MI, therefore, is the best predictor of female participants' VLS.

V. DISCUSSION

In order to investigate the relationship between participates' MI types and VLS categories, the results of the study, based on the Pearson Product Moment Correlation, indicated that there was a statistically significant relationship between the participants' MI types and VLS categories which is in line with the findings in Razmjoo et al. (2009). While the naturalist type of intelligence did not show any relationship with any of the VLS categories, visual intelligence had correlation with all of the categories. More importantly, SOC category of VLS had statistically significant relationship with nearly all MI types which again lends support to the findings by Razmjoo et al. (2009). The naturalist and intrapersonal types of intelligences, however, did not have any relationship with VLS categories. The musical type of intelligence, among the other types, had the strongest relationship with SOC category of VLS, which is not congruent with those in Razmjoo et al. (2009). The findings hence suggest that incorporating more social activities (e.g. group work) in the classroom and developing learners' musical intelligence can promise a fruitful way of improving their vocabulary learning and knowledge.

Drawing on the results for the second research question, it was revealed that both male and female learners employ MEM as the most frequently used strategy, which is not in line with the findings in Arjomand et al. (2011) who concluded that COG/MET strategies were the most commonly used strategies. In addition, both male and female participants used SOC category of VLS as the least frequent strategy which gives more support to the findings by Arjomand et al. (2011). Totally, the female group used VLSs more than the male group. It appears that strategy use should be encouraged among male learners to make them more enthusiastic about vocabulary learning. This also implies that individuals, specially male and female learners, differ from each other with respect to strategy use. Accordingly, each student can be categorized on the basis of his/her particularly prominent intelligence types.

Building on the results of data from Standard Multiple Regression analyses for the third and fourth research questions, the obtained findings revealed that the interpersonal and linguistic types of MI were the best predictors of male learners' VLS use. This finding is in line with those in Razmjoo et al. (2009) who reported that linguistic and natural intelligences made statistically significant contribution to the prediction of vocabulary learning knowledge. For the female learners, however, the bodily and naturalist intelligences contributed significantly to the prediction of their VLS use. This lends support to the findings by Loori (2005) who suggested that differences between males and females' preferences of intelligences were significant. Similarly, this is explainable in terms of individual differences among learners, particularly, between male and female learners of English language. In educational contexts therefore individuals with different intelligences prefer different learning styles and strategies.

Drawing on the results of the present study, male and female learners differ greatly in their frequency of using VLSs. This, in effect, implies the learners' preferences in employing various VLSs between male and female learners. Furthermore, the types of MI as the best predictors of learners' VLS use can greatly differ between male and female learners of English language. The findings obtained in this study are congruent with the previous studies (e.g. Loori, 2005 and Razmjoo et al., 2009) conducted in the field.

VI. Pedagogical Implications

The findings of the present study have significant implications both for language teaching, language learning, and language testing. The construct of MI has created the opportunity to look differently at curriculum, instruction, and assessment. Taking student's needs, interests, and talents into consideration, MI pedagogy creates opportunities for authentic learning. In addition, educators can predict appropriate language activities through identifying learners' MI profiles with varying levels of development. For this to happen, teachers need to realize that different learners with different levels and combinations of the nine intelligences are different in their learning. MI theory can allow educators to develop educational materials and strategies that meet the needs of more specific student population. Eventually, learners' awareness of their MI profiles may assist both themselves and teachers for a better and appropriate incorporation of language activities in the classroom.

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