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Effect of Multiple Intelligence-based Activities on Iranian EFL Learners' Vocabulary Performance

Mozhgan Madhkhan[1], Hadi Salehi[2]*, Omid Tabatabaei[3], Mohammad Reza Talebinejad[4]
[1]Ph.D. Candidate, English Department, Najafabad Branch, Islamic Azad University, Najafabad, Iran
[2*]Assistant Professor, English Department, Najafabad Branch, Islamic Azad University, Najafabad, Iran
[3]Associate Professor, English Department, Najafabad Branch, Islamic Azad University, Najafabad, Iran
[4]Associate Professor, English Department, Najafabad Branch, Islamic Azad University, Najafabad, Iran

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Abstract

This study examined the impact of Multiple Intelligence-based activities (MIBAs) on male and female EFL students' vocabulary performance. To meet this objective Oxford Placement Test (OQPT), vocabulary pre-posttests, and questionnaires were spread among 60 Iranian male and female EFL students in two groups studying at Jahad Daneshgahi of Isfahan University of Technology. They were separated into control and experimental groups, and the oxford vocabulary level test was applied both as the pretests and posttests to evaluate students' vocabulary performance. The participants in the control group were engaged in repetition drills, reading aloud, and task completion, whereas those in the corresponding experimental group were involved with completing crossword puzzles, designing alphabetic codes, and using maps to study geographical locations. The instruction lasted for 12 weeks, two hours each week, and after that, the posttests were applied. Data were evaluated using both quantitative and qualitative methods. The outcomes specified that multiple intelligence-based activities for teaching improved the experimental group's vocabulary performance based on their posttest scores. There was a statistically significant dissimilarity amongst word marks of the students of the experimental group in the post-test. There was a significant difference between male and female learners in vocabulary scores in that males had a higher score after being exposed to alphabetical coding and crossword puzzles. The findings postulated that teachers need to follow guidelines that can help them to enhance learners' awareness of their multiple intelligences through intelligence activity-based approaches while teaching vocabulary. Moreover, learners should be provided with intelligence-based activities so that instruction could be more effective.

Keywords: EFL Learners, MIBAs, Multiple Intelligence, Vocabulary Skill

INTRODUCTION

The emergence of intelligence theory suggested by Gardner (1983), called Multiple Intelligences Theory (MIT) attracted researchers to the effect of intelligence. Gardner considered intelligence as the ability of discovering and overcoming difficulties, overcoming new situations and learning from previous experiences therefore, intelligence is a mixture of different abilities. (Gardner, 1983). Christison (1998) declared that intelligence has influence on people's academic chances, career choices and public rank. MI theory proposes an educational frame both to the teachers and learners by enhancing the learner's motivation, concerning learner's various learning styles, and offering a variety of teaching strategies for the teacher. Students with different intelligences are in classes, thus

***Corresponding Author's Email:** *hadisalehi@phu.iaun.ac.ir*

a useful book is important in containing many intelligences to involve learners' requirements and course aims.

According to Bümen (2002) intelligence has been considered to be the grade in a test, problem-solving skills and proper act in the environment. In these concepts, some abilities such as mathematics, mechanics, and language have been commonly taken as a benchmark. All intelligences should be integrated so that each student with his unique characteristics can use different kinds of intelligences. Technology development increases, and it has clear impacts in our lives. Therefore, societies attempt to improve the value of technology in instruction system constantly, and they started to use multiple intelligence-based activities (MIBAs) in education system. By considering students' intelligence types they will acquire trough teaching activities. Even though earlier studies have inspected the influence of MI on language learning, more researches are required to clarify the application of MIBAs in higher education system.

Linse and Nunan (2005) stated that vocabulary is the complex of words that a person identifies. It refers to the knowledge of words and their meanings. We can improve our word knowledge by memorizing novel vocabularies. Various ways are existed for word learning, the very first strategy is to look a word up in the dictionary, or to learn vocabularies through their synonyms and familiar words or use thesaurus dictionaries. In this research vocabulary learning process is linked with some multiple based activities.

Multiple Intelligence-based Activities

For verbal-linguistic intelligence that mention students' conception, exercise, and process of lexes, there are some activities in classes, such as story explanation, verbal presentations, communication contests, insightful records scripts, acting podcasts, and debates.

For mathematical intelligence in learners clever in statistics and recognize intellectual connections there are intelligence activities like, software designs, puzzles, explanation of spoken troubles, and usage of technical methods.

About visual-spatial intelligence in students who practice a spiritual type of a universal realm. There are classroom activities like notion maps use, forming clay, paint, taking shots, videos, and short films.

In musical intelligence of learners who can differentiate, change, and elaborate echoes, tasks are suggested as listening to melodic bits, playing instruments, creating songs and rhythms, producing melodies to learn concepts.

With body-kinesthetic intelligence by using the physique to remove problems or develop goods, classroom activities are recommended like theater creation, hand-made objects, acquiring by detection, legos, motion activities like pantomime, and physical education like sports drills.

For Intrapersonal intelligence in students with the ability of self-understanding, classroom activities are presented as one minute reflection periods, activities that integrate the independent study, provide classroom spaces for individual study, activities related to the theme of self-esteem, self-taught readings, application of learning centers.

Interpersonal intelligence in students who understand other people, do group work activities like panel competitions, play activities, classmate teaching, public activities, and use of scenario imitations. Intrapersonal and interpersonal intelligence, are called emotional intelligence.

In naturalistic intelligence which is the ability to order, organize, and attach life with nature, some activities are offered like keeping pets or plants in the classroom, gardening, cleaning activities, walking in the park, Showing films or documentaries related to nature, using magnifier.

To find out whether MIBAs have a significant influence on enhancing writing performance, the following research questions are suggested:

RQ1: *Was there any difference between male and female Iranian EFL students in terms of the effect of MIBAs on improving vocabulary performance?*

RQ2*: Which MIBAs were the most effective in improving Iranian male and female EFL students' vocabulary knowledge?*

RQ3*: To what extent did verbal-linguistic, visual-spatial, logical-mathematical, bodily-kinesthetic, interpersonal, intrapersonal, musical and naturalistic intelligence affect vocabulary performance Iranian male and female EFL students?*

LITERATURE REVIEW

By understanding the basics of MI theory, English instructors can combine MI theory-based activities within the English classroom to support language learners in learning more effectively and successfully. Some national and international theoretical and empirical scholarships have been directed, some of the most relevant studies are as follows:

Theoretical Background

Merve (2018), addressed a significant correlation among linguistic intelligence and naturalistic intelligence marks, not other types of intelligence. Akçin and Çetinkaya (2014) inspected the impacts of word instruction methods according to multiple intelligence theory. He claimed that multiple intelligence-based activities have a substantial influence on students' understanding and remembering of new words.

Vocabulary Performance

Linse and Nunan (2005), specified that vocabulary is the mixture of words that a person knows. It states the knowledge of words and their meanings. We can improve our vocabulary abilities by memorizing new words. There are different strategies for word learning, the very first strategy is to look a word up in the dictionary, or to learn vocabularies through their synonyms and familiar words or use thesaurus dictionaries. In this research vocabulary learning process is linked with some multiple based activities.

Multiple Intelligence and Learning Style

Student differences in learning, and their distinctive experiences with a look into the way others obtain information would help them to see themselves as constant learners. Multiple intelligences could be simplified by technology; thus teachers need to learn how to adapt their methods of instruction to differences among students. Classroom learning is under the influence of learning styles that are different from one student to another. Conceptual categorization, personality and motivation, perceiving, thinking, remembering, and solving problems are all related to different learning styles of students. How much or less the time takes to do a required work depends on individuals' abilities.

According to Reissman (1996) the three basic types of learning style are visual, aural, and physical, also most people show a distinct preference for one of the teaching methods as compared with the others. With different types of intelligences, language leaning tasks and activities can be adopted, for example, activities like story reading, oral presentations, speech competitions, diaries keeping, performing podcasts, and disputes need verbal aptitude. Students with linguistic intelligence prefer learning in spoken or written form. Software design activities, use of puzzles, clarification of oral complications, and use of the logical technique related to rational talents that seek for cause and effect. Concept maps use, activities with modeling clay, paint, taking photos, videos, and short films are connected with visual aptitudes. Listening to music, playing instruments, and creating melodies to learn concepts need musical intelligence. Acting on theater, make handicrafts, learning by detection, performing, sport activities are related to kinesthetic talents. Mutual games, peer instructing, community roles need interpersonal intelligence. Activities like autonomous, self-centered, self-trained reading, reflection, and individual study, require intrapersonal intelligence. Keeping pets or plants in the classroom, gardening, cleaning activities, walking in natural environments, Showing natural documentaries, using microscope, and telescope need natural intelligence.

MIT is useful for educators to design smart methods to offer students appropriate drill. Richards and Rodgers (2001) stated that within a cognitive model, linguistic viewpoint is not the only matter in language, al1 aspects of communication are included. Learning tasks

with different intelligences can improve learners' verbal linguistic intelligence. Teachers propose a range of tasks for students to catch information in their favored mode, along with progress of other intelligences. Sener and Çokçaliskan (2018) stated that the way students recognize and practice information in learning conditions is called style of learning, and if students become aware of their distinct styles, their learning potentials will improve. Felder and Brent (2005) claimed that the adaptation of teaching styles with learning styles can develop learning processes, and the aim is not to find a solution for each student, but to improve learning skills amongst students that are appropriate for all types of learning.

Teachability of Intelligences

Bransford, Brown, and Cocking (2000) stated that successful learning depends on incorporating new learning into the structure of former knowledge, they asserted that acquiring alters or adjusts the mind and the speed of learning is different in several parts of the mind. Acquiring is the outcome of reinforcement associates in the brain by activating a shape again and again. Learners are intelligent to different degrees, and intelligence isn't static, and anyone who fails at school isn't necessarily less intelligent. Learners maybe strong or weak in one or two intelligences, thus teachers need to recognize these intelligences from learners' behaviors, and preferences then modify the less developed ones. Students' loose interest by monotonous way of teaching, therefore MI theory offers an organized teaching method combining intelligences to address different skills, and students can represent their understanding in different ways, furthermore talents and interests are not neglected as highlighted by Hoerr (2000) who defined MI approach as a method of instruction that reflects students' interests, talents, and responsibilities by different ways of learning.

Choices and chances that multiple intelligences-based instruction given to students help them to represent themselves in English language. Various styles that alter the teachability of intelligences are learning by hearing, doing, analyzing, discussing, listening and sharing ideas. Goal-oriented students learn by self-discovery, notice information conceptually, think chronologically, and seek for a challenge, nevertheless they are spontaneous, and eager; avoids separation; and keen on giving energy to others.

Language Aptitude

Language aptitude is considered as gifted individuals with superior oral aptitudes that acquire language and use it successfully both spoken and written it in new occasions. Skehan (1998) stated that language aptitude is the human capacity on the basis of aural skill, verbal capacity and retention capability. He confirms that in unique language educators speaking fluency happens rapidly, and they have a great memory ability, and can conform new material and retrieve it in communication, furthermore learning activities in MIT can help speakers to communicate with each other. According to Nolen (2003) verbal intelligent individuals are most likely to reflect in words. Armstrong (2009) asserted that those who are sensitive to sentence structure, sounds, syntax or semantics have linguistic talent. Each student has his own desire, learning style, and potentials in the process of acquiring.

According to Sener and Çokçaliskan (2018) all intelligences must be accounted in teaching on the basis of students' practical styles of learning and their reaction to the learning environments. In Calik and Birgili (2013) asserted that MIT could be used by learning the meaning, and the directed activities, and can considerably develop students' contribution. Gardner claims that a mixture of several intelligences impacts students' abilities in problem solving and facing with challenges. As Wilson (2018) highlighted that the effective learning process needs critical thinking, therefore providing a teaching method that upgrades students' abilities is required. Tsai (2016) delineated that students encounter a lot of data and become knowledgeable as they grow and get mature. Students should be introduced with real and tangible activities, they should contribute to the planning and evaluation processes, and participate in teamwork.

Gouws (2007) stated that all the multiple intelligences should be in the exposure of students, and let them detect the prevailing intelligence. Students must learn to exploit all current intelligences for actual education, and recognize all personal intelligences. MIT underlines that there is no specific method of instruction that suite every student. Every learner is strong in one or two intelligences therefore a special method of teaching is acceptable with some students but not with others. For example, teachers who use activities with taking photos, videos, short films, and paintings in classroom, realize that students with visual intelligence reply enthusiastically, but other students are uninterested.

Defining Students' Dominant Intelligences

Gardner asserted that evaluation of intelligences should be directed with the materials of each intelligence for instance visual intelligence should be assed with the help of spatial instruments. To assess students' intelligences with related activities and tools to realize which intelligence is dominant in which student would not be an easy work. Armstrong (2009) proposed that there is a good way to detect students' dominant intelligences by observing how they misbehave in classrooms. For instance, talking out of turn is an indicator of strongly linguistic students, drawing pictures and daydreaming would best describe students with spatial intelligence. Those students who socialize, interact, start conversations are interpersonally motivated students. Students who get up from their seats and play around the class might be inclined toward kinesthetic intelligence, and those who bring an animal to class might have natural intelligence. Musical students might sing or tap on the desks with rhythm, those who sit alone and think even in break time are intrapersonal learners.

How students spend their free time in school can be another indicator of their dominant intelligence, and how they learn more efficiently. When teachers let students choose from a number of activities, those who read books are linguistic students, those who deal with group activities or games are interpersonal, spatial students prefer to paint, bodily kinesthetic students play or run. Parents can penetrate into their children's preferred intelligence due to the amount of time they spent with their kids. Parents can provide important information about the dominant intelligence of their children by observing the types of activities they prefer to do most of their free time.

Vocabulary Skill

Vocabulary mostly signifies a group of words used in an exact way by a certain group of people about their languages. Hornby (1956) defined vocabulary as the total number of words which make up a language. Nation (2004) announced that words are used to name objects, ideas, and actions that help people to transfer the meaning, therefore vocabularies are the building blocks of a language. Harmer (2007) declared that vocabulary offers the vital organs and the flesh. It is impossible to have only structure without vocabulary. Sedita (2005) considers vocabulary the basic element of reading training, which is very important to the process of teaching students how to read. Vocabulary learning is a basic skill that educators are usually trying to find a way to better recall them. Sökmen (1997) highlighted that despite of the efforts to train students how to learn vocabulary independently, learning all the required words for students in the classroom is impossible.

MI Theory and Vocabulary Skill

Thornbury (2006) claimed that vocabulary is remembering which is based on rules, and language teacher should support learners to discover ways of connecting novel data to the previous repertoire of words in mind. According to Zheng (2012) the traditional methods of teaching English language are using word list for vocabulary learning, pictures, and objects to designate meaning, reading passages, studying roots, writing automatically, and learning by association. Some of these methods are time-consuming teacher-centered, and they are not systematic. As Campilo (2000) stated learning approach has three types: visual techniques, verbal tech-

niques and translational. Teachers use mime, photographs, and gesture to teach vocabulary. Lai (2005) mentioned that the usage of memorizing tools confirm long-term memory storage. Dajani and McLaughlin (2009) claimed that vocabulary based on practice activities brings real-life situations and communicative functions. Arnold and Fonseca (2004) discovered that visual and musical stimuli in stories helped primary students to improve their vocabulary.

Teachers identify the distinctions in their students through multiple intelligences theory in the language classroom, learning can be supported through visual-spatial, musical, bodily- kinesthetic, intrapersonal capabilities. As Bas (2009) mentioned storybooks are suitable for grammar and vocabulary, individuals make their own dictionary by visualizing words of stories which they hear and read. In addition, the students have the ability to make the card game. Yaqubi, Rayati, and Allemzade Gorgi (2012) stated that engagement increasing activities need to be introduced sufficiently.

Razmjoo, Sahragard, and Sadri (2009) studied the relationship of multiple intelligence and word awareness amongst Iranian second language learners. They found out that verbal and natural intelligences facilitated word recognition. In language learning vocabulary has a basic role but it is often ignored, and makes some problems in learning, and producing language, although students know the grammar and pronunciation, they can't make communication in another language without sufficient knowledge of words.

Wallace (1988) mentioned that learning the vocabulary of a language is a substance for learning a foreign language. Wilkins (1972) mentioned that not much information can be transferred in the absence of grammar, and it is tough to transfer anything without vocabulary. Allen (1983) claimed that the amount of time teachers spend in classrooms on grammar is much more than word. Celce-Murcia (1990) asserted that grammar rules are meaningful with vocabularies, and vocabularies are complete with grammar rules. Therefore, vocabulary and grammar are equally important, and teachers need to consider a basic position for vocabulary in teaching a language that through multiple intelligence activities can facilitate it more.

Empirical Background

Servi (2004) explored the connection among vocabulary knowledge and multiple intelligences. His findings specified that training words by multiple intelligence improved students' vocabulary skill. According to Chen (2005) learners who were taught using the ideas based on multiple intelligences performed better than other students.

Ugarte Oteiza (2013) inspected the connection amongst learning strategies and multiple intelligences, and concluded that explicit teaching was helpful for learners' word learning.

Akçin and Çetinkaya (2014) concentrated on the effect of applying multiple intelligence-based activities on learners' vocabulary retention. The outcomes showed that MI based activities were effective in language understanding and word memorizing.

Noor and Amir (2017) examined the effect of Multiple Intelligences on word knowledge. The results indicated that there wasn't any significant relationship among the variables, learners need inspiring educational setting.

Jiang and Zhou (2020) studied the relationship between word training and multiple intelligences. They claimed that multiple intelligences expanded instruction methods and had a significant effect on word learning.

Boonkongsaen, Nakaved, and Pranarach (2020) examined word knowledge and multiple intelligences in EFL students. They found that verbal intelligence was a significant factor in vocabulary recognition.

Zarei and Afshar (2014) examined reading and vocabulary skills under the shade of multiple intelligences. They concluded that musical, interpersonal, mathematical and bodily intelligences were effective in reading ability. In addition, musical, linguistic, visual, bodily and natural intelligences were significant in word learning.

Ahour and Abdi (2015) inspected the relationship among male and female EFL learners' word learning and multiple intelligences. They found that there was a significant correlation

among variables and the musical intelligence had the highest effect on word retention. In addition, the interpersonal and verbal intelligences had more impact on word learning. The bodily and naturalist intelligences contributed were more significant with female learners.

Hajebi, Taheri, and Noshadi (2018) investigated the association among interpersonal intelligence, reading and vocabulary learning. The results revealed no significant effect of interpersonal intelligence and vocabulary learning, but it reading had a significant effect in word knowledge.

Savojbolaghchilar, Seifoori, and Ghafoori (2020) examined the impact of thematic vocabulary instruction through multiple intelligences. Results showed that experimental group and students with interpersonal intelligence were stronger in vocabulary learning.

METHOD

Design of the Study

The current research held with an experimental and a control group through an experimental design that participants were given pretest and posttest. To obtain the data of this research, pretest, and posttest were performed from two groups. Instructions according to MIBA t-test were independent and variable-dependent samples of written performance. Gender was also a moderating variable.

Participants

The current research included 60 male and female EFL learners in Najafabad Azad University of Isfahan. These participants enrolled in TEFL and English translation courses. According to the leveling test, learners who recorded a standard deviation higher and lower than the mean were selected and assigned as the intermediate level. Partakers were between 22 and 24 years who were distributed in three equal groups with two experimental groups (20 males, 20 females) and one control group (20 n).

Materials and Instruments

Oxford Placement Test (OPT)

To examine the participants' English language ability, the partakers took a general training version of the Oxford Placement Test (OPT). The test document in this research was taken from the book entitled *Oxford Placement Test 8 student's book with answers* (2019). One test of this book was selected randomly. The items of all four skills were administered.

Vocabulary Pretest and Posttest

Based on *Oxford Word Skills*, a pretest with thirty multiple-choice question was taken from students to see their knowledge of words before training them any MIBAs activities. In order to eliminate the probability of test effects, items in posttest were rearranged. This was done to examine whether MIBAs affect the students' vocabulary knowledge.

Textbook

Oxford Word Skills (2008) was applied to exclude activities based on the MIs definition, to improve vocabulary knowledge. The available authentic materials from different sources enable learners to face with new language in various settings. Therefore students can practice understanding activities, and word exercises.

Data Collection Procedure

The whole process of data collection took about four months. The data collection started with the OPT test which was administered before the commencement of the new semester. The second step was the introduction of treatments to the contributors in different groups. Between pretest and posttest, treatments were provided to participants. In two classes, when each session ended, the instructor gave the learners vocabulary assignment, and students were randomly to participate in the activity. The lessons were presented according to linguistic, spatial, mathematical, bodily, interpersonal, intrapersonal, musical, and naturalistic intelligence. In the control group, the participants were asked to follow conventional ways of learning vocabulary. It should be noted here that the researcher was present in every session of conducting the study to observe the participants' performances and perform the treatment appropriately. The presence of a researcher is highly important. Before the main study, the

researcher conducted a pilot study and consulted with the language experts. In addition, the researcher hold regular briefing sessions with the instructors of each group and talked about the proper implementation of each treatment.

RESULTS

The first research question discovered the difference among male and female Iranian EFL students according to the effect of MIBAs on improving vocabulary performance. Therefore, another independent samples t-test was conducted.

Table 1
Independent Samples T-test for Vocabulary Performance

Groups	N	Mean	SD	Levene's Test for Equality of Variances		t-test for Equality of Means		
Male	20	25.00	1.72	F	Sig.	t	df.	Sig. (2-tailed)
Female	40	24.00		11.00	0.001	2.49	59	0.014

On the basis of Table 1, the mean score of the male group is 25.00, and that of the control group is 24.00 with the level of significance of .001. Because the level of Sig. is less than 0.05 set for the study, F (2, 59) = 11.00, p<.05), therefore, the finding revealed that there was a meaningful difference among the male and female groups' performance in the vocabulary posttest, nullifying the related hypothesis.

Table 2
Statistics of the MIBAs in Vocabulary Performance

		N	Mean	SD	Std. Error	95% Confidence Interval for Mean		Min.	Max.
						Lower Bound	Upper Bound		
Verbal Linguistic	Male	20	20.3500	2.97843	.66600	18.9561	21.7439	16.00	26.00
	Female	40	19.2750	3.21046	.50762	18.2482	20.3018	13.00	26.00
	Total	60	19.6333	3.15136	.40684	18.8193	20.4474	13.00	26.00
Visual Spatial	Male	20	19.5000	3.05218	.68249	18.0715	20.9285	14.00	26.00
	Female	40	19.7500	3.17644	.50224	18.7341	20.7659	13.00	26.00
	Total	60	19.6667	3.11185	.40174	18.8628	20.4705	13.00	26.00
Logical Mathematical	Male	20	20.3500	3.45307	.77213	18.7339	21.9661	15.00	26.00
	Female	40	19.6250	3.19204	.50471	18.6041	20.6459	13.00	26.00
	Total	60	19.8667	3.27014	.42217	19.0219	20.7114	13.00	26.00
Bodily Kinesthetic	Male	20	19.5500	2.99956	.67072	18.1462	20.9538	15.00	26.00
	Female	40	19.2500	3.32627	.52593	18.1862	20.3138	13.00	26.00
	Total	60	19.3500	3.19865	.41294	18.5237	20.1763	13.00	26.00
Interpersonal	Male	20	20.6000	3.70490	.82844	18.8661	22.3339	13.00	26.00
	Female	40	19.5750	3.86893	.61173	18.3377	20.8123	13.00	27.00
	Total	60	19.9167	3.81474	.49248	18.9312	20.9021	13.00	27.00
Intrapersonal	Male	20	19.2500	3.69744	.82677	17.5195	20.9805	13.00	26.00
	Female	40	19.6500	3.23086	.51084	18.6167	20.6833	13.00	26.00
	Total	60	19.5167	3.36730	.43472	18.6468	20.3865	13.00	26.00
Musical	Male	20	20.2500	3.36976	.75350	18.6729	21.8271	15.00	26.00
	Female	40	19.6000	3.49945	.55331	18.4808	20.7192	13.00	27.00
	Total	60	19.8167	3.44197	.44436	18.9275	20.7058	13.00	27.00
Naturalistic	Male	20	20.9000	3.40124	.76054	19.3082	22.4918	16.00	27.00
	Female	40	19.6500	3.15050	.49814	18.6424	20.6576	13.00	26.00
	Total	60	20.0667	3.26183	.42110	19.2240	20.9093	13.00	27.00

Then, the test of homogeneity of variances is also calculated and reported. Table 3 shows test of homogeneity of variances.

Table 3
Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Verbal Linguistic	.067	1	58	.797
Visual Spatial	.201	1	58	.656
Logical Mathematical	.266	1	58	.608
Bodily Kinesthetic	.209	1	58	.649
Interpersonal	.333	1	58	.566
Intrapersonal	.953	1	58	.333
Musical	.026	1	58	.872
Naturalistic	.134	1	58	.716

In addition, the ANOVA results for the most effective MIBAs in improving Iranian male and female EFL students' vocabulary performance are shown in Table 4.

Table 4
One-way ANOVA for MIBAs in Vocabulary

				Sum of Squares	df	Mean Square	F	Sig.
Verbal Linguistic	Between Groups	(Combined)		15.408	1	15.408	1.566	.216
		Linear Term	Unweighted	15.408	1	15.408	1.566	.216
			Weighted	15.408	1	15.408	1.566	.216
	Within Groups			570.525	58	9.837		
	Total			585.933	59			
Visual Spatial	Between Groups	(Combined)		.833	1	.833	.085	.772
		Linear Term	Unweighted	.833	1	.833	.085	.772
			Weighted	.833	1	.833	.085	.772
	Within Groups			570.500	58	9.836		
	Total			571.333	59			
Logical Mathematical	Between Groups	(Combined)		7.008	1	7.008	.651	.423
		Linear Term	Unweighted	7.008	1	7.008	.651	.423
			Weighted	7.008	1	7.008	.651	.423
	Within Groups			623.925	58	10.757		
	Total			630.933	59			
Bodily Kinesthetic	Between Groups	(Combined)		1.200	1	1.200	.116	.735
		Linear Term	Unweighted	1.200	1	1.200	.116	.735
			Weighted	1.200	1	1.200	.116	.735
	Within Groups			602.450	58	10.387		
	Total			603.650	59			
Interpersonal	Between Groups	(Combined)		14.008	1	14.008	.962	.331
		Linear Term	Unweighted	14.008	1	14.008	.962	.331
			Weighted	14.008	1	14.008	.962	.331
	Within Groups			844.575	58	14.562		
	Total			858.583	59			
Intrapersonal	Between Groups	(Combined)		2.133	1	2.133	.186	.668
		Linear Term	Unweighted	2.133	1	2.133	.186	.668
			Weighted	2.133	1	2.133	.186	.668
	Within Groups			666.850	58	11.497		
	Total			668.983	59			
Musical	Between Groups	(Combined)		5.633	1	5.633	.471	.495
		Linear Term	Unweighted	5.633	1	5.633	.471	.495
			Weighted	5.633	1	5.633	.471	.495
	Within Groups			693.350	58	11.954		
	Total			698.983	59			
Naturalistic	Between Groups	(Combined)		20.833	1	20.833	1.991	.164
		Linear Term	Unweighted	20.833	1	20.833	1.991	.164
			Weighted	20.833	1	20.833	1.991	.164
	Within Groups			606.900	58	10.464		
	Total			627.733	59			

As illustrated in Table 4.17, since Verbal Linguistic $p<0.05$, ($F=1.566$), Logical Mathematical, $p<0.05$, ($F=.651$), Interpersonal, $p<0.05$, ($F=.962$), Musical, $p<0.05$, ($F=.471$), and Naturalistic, $p<0.05$, ($F=.471$), respectively. It is argued that the most effective MIBAs in improving Iranian male and female EFL students' vocabulary performance are linguistic, mathematical, interpersonal, musical and naturalistic MIBAs.

DISCUSSION

Similarly, Farjami (2002) studied the influence of multiple intelligence-based activities on teaching content of the texts in case of general English. He claimed that learners' presentations and general English knowledge developed because the activities were based on multiple intelligences, and every student has the chance of learning. Baş and Beyhab (2010) discovered that learners under the influence of MI outperformed in their results and they were more interested in learning. Furthermore, Abdulkader, Gündogdu, and Mourad (2009) pointed out the efficiency of the multiple intelligences on reading ability and word knowledge. Shearer (2004) stated that a mixture of multiple intelligences and language classes will shape independent learners. Outcomes revealed that verbal, mathematical, interpersonal, musical and naturalistic intelligence are more effective in word learning.

The results of the present study reinforced the statements of a number of researchers (e.g., (Armstrong, 2009; Gaines & Lehmann, 2002) about the significant influence multiple intelligence activities on language skills. In the same vein, Hashemian and Adibpour (2012) showed a significant correlation between multiple intelligence marks of learners and language learning strategies. In addition, linguistic, intrapersonal, visual intelligence and cognitive learning strategies are connected with each other. This consequence was reinforced by Darling-Hammond (2008) who indicated that the major issue in the use of multiple intelligences in instruction settings is that the popular intelligences are logical and verbal. In addition, Richards and Rodgers (2001) claimed that instructors inclined to convey a special intelligence to the class, and they ignore the other intelligences.

These research questions explored the degree to which verbal, visual, logical, kinesthetic, interpersonal, intrapersonal, musical and naturalistic intelligence affected vocabulary performance of Iranian male and female EFL learners. Anderson (1998) designated that the students' word marks developed after being exposed to multiple intelligence activities. Palmberg (2002) exposed that instructors who involve learners in multiple intelligence activities support their students to attain their needs. The consequences of this study is in line with the studies of (Barrington*, 2004; Chen, 2005; Christison, 1998; Cohen, Weaver, & Li, 1996; Curtin, 2005; Haji & Balwghizaadeh, 2004; Hall, 2004; Kornhaber, Fierros, & Veenema, 2004; Lee & Oxford, 2008; Mitchell, Myles, & Marsden, 2019; Oxford, Cho, Leung, & Kim, 2004) that established the usefulness of teaching in consort with multiple intelligences. Learning strategies that smooth students' weaknesses are in accordance to the above findings. For instance by nature activities teachers can improve word memorization of students (Arnold & Fonseca, 2004). Moran, Kornhaber, and Gardner (2006) stated that with one lego we can make limited structures and with several legos we can make different patterns. These structures make up various patterns like the story of multiple intelligences.

CONCLUSIONS

Some learners are good at mathematical practices and some at linguistic exercises. According to Richards and Rodgers (2001) language is not limited to verbal aspects it involves all sorts of communication. Diverse multiple intelligence activities are motivational and pleasant for students, and instructors can train learners according to their preferred style of learning in which they are stronger.

The improvement in students' attainment of experimental group may be associated to the activities, and lesson plans. Moreover, there are statistically significant differences related the experimental group, thus using techniques that knock on MIBAs were significant in developing word achievement in English among the experimental group. This may be related to MIBAs, which provided students

with occasions to contribute and communicate individually or in groups.

Hajhashemi, Ghombavani, and Yazdi Amirkhiz (2011) stated that teachers can provide student-centered activities that incorporate all students' intelligences to make the same chances for numerous students in academic settings.

In multiple intelligence-based methods of teaching, abilities of the learners are the crucial factors in their learning. Exciting activities, reduce anxiety and learning difficulties and increase self-awareness. Meller (1999) claimed that use of multiple intelligence activities assist instructors to make inspiring settings. Optimistic attitude towards English course.

Multiple intelligence activities bring optimistic outlook into the learning course, a bodily intelligent person is interested in sport settings. Shortage of time, is a common problem in classrooms, and this is in consort with Currie (2003) that claimed teachers more devotion to the preplanned language material as an alternative for creative practices. Vincent and Ross (2001) stated that a detailed scheduling and designing is required for the instructor to apply multiple intelligence activities successfully in classrooms.

Learners' involvement in classes is followed by the amount of interesting multiple intelligence activities that teachers bring to the class. Lecturers must be informed about all types of intelligences, and the must consider students' interests in order to reach a better class participation.

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Biodata

Mozhgan Madhkhan is a Ph.D. candidate of TEFL at Najafabad Branch, Islamic Azad University in Iran. Her main research areas include language teaching, materials development, and applied linguistics.
Email: *m.madkhan7@gmail.com*

Dr. Hadi Salehi is an assistant professor of applied linguistics, Najafabad Branch, Islamic Azad University in Iran, where he teaches undergraduate and postgraduate courses. His main research interests include materials development, ICT, e-learning, and washback of high-stakes tests.
Email: *hadisalehi@phu.iaun.ac.ir*

Dr. Omid Tabatabaei is an associate professor of applied linguistics and the head of English Department at Najafabad Islamic Azad University, Iran. He has published a number of articles in domestic and international journals and presented in various conferences. Moreover, he has authored books on ELT and assessment. His areas of interest are language assessment, teaching theories and skills, psycholinguistics, and research methodology.
Email: *tabatabaeiomid@phu.iaun.ac.ir*

Dr. Mohammad Reza Talebinejad is an associate professor of Applied Linguistics in the Department of English at Islamic Azad University, Shahreza, Iran. He is currently teaching courses at Ph.D. and M.A levels at different universities in Iran. He has widely published numerous articles in local and international academic journals and authored books in related fields. His areas of interest are Pragmatics, Learning Theories, Second Language Acquisition, and Applied Linguistics.
Email: *mrezatalebinejad@gmail.com*