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Original research paper

THE RELATIONSHIP BETWEEN MULTIPLE INTELLIGENCES AND SUCCESS IN LEARNING ENGLISH AS A FOREIGN LANGUAGE

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Gordana Ćirić Ognjenović

University of Novi Sad, Faculty of Philosophy, Novi Sad, Serbia

ORCID iDs: Gordana Ćirić Ognjenović

<https://orcid.org/0009-0009-5033-554X>

Abstract. *The aim of this paper is to present research on the relationship between multiple intelligences (MI) proposed by Gardner (1993) and success in learning English as a foreign language (measured through grades in English) among 100 grammar school students in Serbia. McKenzie's (1999) Multiple Intelligences Survey was used to identify grammar school students' intelligence profiles, showing that the most prominent types of intelligence are intrapersonal, logical and kinesthetic. The results of independent samples t-test analysis indicate that gender does not affect MI or language proficiency. The results of Pearson correlation suggest that general language proficiency is positively correlated with visual and existential intelligences, while different types of productive and receptive language skills (together with grammar and vocabulary knowledge) are positively correlated with musical, existential, visual, logical and verbal intelligences. Pearson correlation results also indicate that it is not possible to develop certain types of intelligence by using teaching techniques that engage them. The research has significant educational implications, suggesting that teachers should identify their students' intelligence profiles and adapt their teaching techniques accordingly, instead of trying to force the development of verbal and logical intelligences, which are, apparently wrongly, regarded as prerequisites for success in learning.*

Key words: *multiple intelligences, language proficiency, student-centered teaching*

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Corresponding author: Gordana Ćirić Ognjenović

University of Novi Sad, Faculty of Philosophy, Dr Zorana Đinđića 2, 21102 Novi Sad, Serbia

E-mail: gordanaciric94@gmail.com

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1. INTRODUCTION

The concept of multiple intelligences was introduced by Howard Gardner in his work *Frames of mind: The theory of multiple intelligences* (Gardner, 1983). Gardner's (1983) view of intelligence opposes - the notion of intelligence as a single, general intelligence 'g', which is accurately measured with standard IQ-tests and relevant only in formal schooling. In educational contexts, general intelligence is understood as a combination of linguistic and mathematical-logical intelligences, which are regarded as prerequisites for success in education. Such a belief leads to biased teaching and assessment techniques, enabling only the students with higher levels of linguistic and mathematical intelligences to demonstrate their understanding of different phenomena. Gardner defines intelligence as a "biopsychological potential to process information that can be activated in a cultural setting to solve problems or create products that are valued in a culture" (Gardner, 1999, p. 33). According to Gardner (1999, pp. 53-57), intelligence is multiple and dynamic, consisting of verbal-linguistic intelligence (the ability to use words effectively, symbolic thinking, conceptual patterning, reading and writing), logical-mathematical intelligence (the capacity for good reasoning and effective use of numbers, sensitivity to logical patterns and relationships), musical intelligence (the recognition and use of rhythmic and tonal patterns, sensitivity to different sounds), spatial intelligence (the capacity to perceive the visual-spatial world accurately and perform transformations upon those perceptions, the ability to visualize, and to orient oneself properly), bodily-kinesthetic intelligence (the ability to use the body to express emotion, to play a game, or to create a new product), intrapersonal intelligence (possessing self-knowledge and the ability to act based on this knowledge, understanding inner cognitive and affective phenomena, having self-discipline), interpersonal intelligence (the ability to cooperate, and communicate with other people), naturalistic intelligence (the ability to recognize patterns in nature and classify objects, sensitivity to the features of the natural world and understanding of different species), and existential intelligence (the ability to pose and ponder questions about life, death and ultimate realities). As can be seen, the concept of multiple intelligences presupposes the existence of nine intelligence types, which are possessed by each individual in different proportions. Understood this way, intelligence is best "measured" through its realworld manifestations, focusing on people's ability to do and produce something in real life contexts (Baum, Viens, & Slatin, 2005, p. 10). Gardner (1993) views intelligence as not resulting solely from genetics, but also from environmental factors, such as motivation, experience and culture. In the educational context, this implies that different types of intelligence among learners are, at least partly, the result of the teaching methodology to which they were exposed (Christison, 1998). Nelson (1988) indicates the causal relationship between different types of teaching methods and multiple intelligences. According to him, learning through reading, hearing and seeing words, and writing, speaking and discussing ideas possibly promotes linguistic intelligence, whereas working with patterns and relationships, classifying and categorizing, and working with the abstract could promote mathematical-logical intelligence. Working with pictures and colors, visualizing and drawing promotes spatial and visual intelligence, while bodily-kinesthetic intelligence may be promoted through touching, moving, and processing knowledge through bodily sensations. Rhythm and melody, singing and listening to music and melodies potentially enhance musical intelligence, while sharing and relating with others, interviewing and cooperating should

enhance interpersonal intelligence. Intrapersonal intelligence may be developed through working alone, doing self-paced projects and reflecting, whereas working in nature, exploring living things and learning about plants and natural events may enhance naturalistic intelligence.

Exploring the relationship between gender and multiple intelligences among Iranian PhD candidates, Razmjoo (2008) concluded that there is no significant difference between male and female participants regarding their intelligence types and language proficiency. His findings are incongruent with Loori's (2005) results, which indicate that males display a preference for activities involving logical and mathematical intelligences, while female learners prefer learning activities involving intrapersonal intelligence. Saricaoglu and Arikan (2009) found no significant gender differences in intelligence types, except that female participants have a higher level of linguistic intelligence. Investigating the frequency of different types of intelligence among high school students, Snyder (2000) found that tactile/kinesthetic intelligence was the most prominent. Shayeghi and Hosseinioun (2005) concluded that interpersonal intelligence is the most common among Iranian intermediate EFL learners, followed by bodily-kinesthetic, linguistic, spatial, musical and intrapersonal intelligence (in that order), while logical-mathematical was the least common type of intelligence. Saricaoglu and Arican (2009) found that the most prominent type of intelligence among preparatory class students at Erciyes University's School of Foreign Languages was math-logical intelligence, followed by spatial and bodily-kinesthetic intelligence. Considering the strength of the relationship between language proficiency in English and the nine types of intelligences, Razmjoo (2008) concluded that there is no significant relationship between language proficiency and the combination of intelligences in general or the types of intelligences in particular. None of the intelligence types can be diagnosed as a predictor of language proficiency (Razmjoo, 2008, p. 169). Investigating the relationship between MI and writing ability among Iranian EFL learners, Sadeghi and Farzizadeh (2012) found no significant relationship between university EFL learners' MI and their writing ability, and the results were the same even when different components of MI were concerned. Their findings are at odds with Hosseini's (2012) claim that linguistic intelligence has the greatest contribution to the writing performance (quoted in Sadeghi & Farzizadeh, 2012), as well as with Marefat's (2007) conclusion that existential, kinesthetic and interpersonal intelligences are the best predictors of writing performance. Bemani Naeini & Pandian (2010) explored the relationship of MI with listening proficiency among Iranian TEFL university students, and concluded that there is no significant relationship between MI profiles and listening comprehension. On the other hand, Mahdavy's (2008) findings indicate that linguistic intelligence is a statistically significant predictor of listening proficiency. Yeganehfar (2005) finds an acceptable correlation between speaking and interpersonal intelligence. Sayeghi and Hosseinioun (2015) revealed a significant positive correlation between grammar accuracy and linguistic intelligence, as well as interpersonal intelligence, among Iranian EFL learners. Panahi (2011) claims that learners with higher MI display greater grammar knowledge, but learners with dominant linguistic intelligence did not differ from other learners. Saricaoglu and Arikan (2009) show that bodily-kinesthetic intelligence, intrapersonal intelligence and spatial intelligence had low negative correlations with students' grammar test scores. Javanmard (2012) studied the correlation between MI and Iranian EFL learners' scores on vocabulary tests, showing that musical and kinesthetic intelligences are the most significant predictors of performance.

Taking everything into consideration, the following research questions have been deemed relevant to investigate:

1. Which type of intelligence is the most common among grammar school students?
2. What is the effect of gender on types of intelligence and English language proficiency?
3. Which type(s) of intelligence is/are the most significant in predicting English language proficiency?
4. Which type(s) of intelligence, if any, can predict success in speaking?
5. Which type(s) of intelligence, if any, can predict success in writing?
6. Which type(s) of intelligence, if any, can predict success in listening?
7. Which type(s) of intelligence, if any, can predict success in reading?
8. Which type(s) of intelligence, if any, is related to students' vocabulary knowledge?
9. Which type(s) of intelligence, if any, is related to students' knowledge of grammar?
10. Which type(s) of intelligence or combination of intelligences can predict success in education in general, i.e. average grade (GPA)?

2. METHODOLOGY

Section 2. describes the methodology of the research in terms of the participants, the instruments used, the procedure and the analysis of data.

Participants: The participants in the study included a total of 100 grammar school students, 50 from “Jovan Jovanović Zmaj” Grammar school in Odžaci, Serbia, and 50 from “Žarko Zrenjanin” Grammar school in Vrbas, Serbia. The participants were selected through purposive sampling to ensure an equal number of 50 female and 50 male participants. Of the participants, 25 were first year students (11 female and 14 male); 25 were second year students (13 female and 12 male); 25 participants were third year students (12 female and 11 male), and the remaining 25 students were fourth year students (14 female and 13 male). All participants were aged between 16 and 19, and were native speakers of Serbian. The participants varied in terms of their language proficiency, as measured by their grades in English and their average grades.

Table 1 Participants

		Year of Study				Total	
		First year	Second year	Third year	Fourth year		
Gender	Female	Count	11	13	12	14	50
		% of Total	11%	13%	12%	14%	50%
	Male	Count	14	12	11	13	50
		% of Total	14%	12%	11%	13%	50%
Total	Count	25	25	23	27	100	
	% of Total	25%	25%	23%	27%	100%	

Instruments: The adapted version of McKenzie’s (1999) Multiple Intelligences Survey was used in the study. McKenzie’s (1999) questionnaire consists of nine sections, with each section containing 10 statements. Each section corresponds to one type of intelligence proposed by Gardner (1999). The sentences in each section that are true for the participants indicate the presence of the corresponding type of intelligence. The original questionnaire was adapted by translating it into Serbian and adding independent

variables such as age, gender, year of study, average grade, and grade in English. Furthermore, it included variables related to success in specific productive and receptive language skills, as well as those indicating the teaching techniques and methods to which the participants were exposed during their education.

Procedure: The teachers at both grammar schools agreed to allocate half of their 45-minute classes for the completion of the questionnaires. The students were assured that the questionnaire was anonymous and were invited to participate willingly. They were given clear instructions on how to complete the questionnaires, but were allowed to seek help whenever they found it necessary. They had 20 minutes to complete the questionnaire. In the first part, students were instructed to write their age, gender, year of study, average grade and grade in English in the provided spaces. Their grade in English was used as a measure of their English language proficiency. Information about their proficiency in specific receptive and productive language skills, as well as their knowledge of grammar and vocabulary, was elicited through self-evaluation. Participants were asked to rate their proficiency on a scale from 1 to 5, with clear descriptions of what each number represented, and to write the corresponding numbers in the provided spaces. The second part of the questionnaire described various teaching techniques that, according to Nelson (1988), are related to specific intelligence types. Participants were required to indicate how frequently they were exposed to these techniques by circling a number on a scale from 1 to 5, with clear descriptions of what each number represented. The third part of the questionnaire was the translated version of McKenzie's (1999) Multiple Intelligences Survey. Students were asked to read the sentences and write the number 1 in the space next to the sentence that accurately described them. The number of sentences that accurately described the participants was summed and recorded in the spaces below the sentences. The number of sentences marked as true indicated the level of presence of a specific type of intelligence in an individual.

Data analysis: The statistical analyses of the data were done using the *Statistical Package for the Social Sciences* (SPSS) version 20. To determine which type of intelligence is the most common among the participants, as well as to account for the teaching methods the participants were most frequently exposed to, simple descriptive statistics were calculated, including mean and standard deviation. The effect of gender on types of intelligence and language proficiency was analyzed using Independent Samples T-Test. To analyze to what extent certain types of intelligence are determined by the kinds of teaching methodologies the learners have experienced during their education, Pearson Correlation was calculated between a type of intelligence and the method expected to have an influence on it (e.g. correlating naturalistic intelligence with methods considered to promote naturalistic intelligence). To account for the influence of certain types of intelligence on language proficiency, average grade, and specific receptive and productive skills (together with grammar and vocabulary knowledge), Pearson Correlation was conducted between types of intelligence (components of MI) and the variable of interest.

3. RESULTS AND DISCUSSION

Regarding the question about the most common component of MI among grammar school students, the results showed that the most common type of intelligence is intrapersonal (mean=6.59), followed by logical (mean=5.31) and kinesthetic (mean=5.06), while the least common type of intelligence is naturalistic (mean=4.13), as seen in Table 2.

This finding is congruent with findings by Snyder (2000), Shayeghi and Hosseiniun (2005) and Saricaoglu and Arican (2009) who all showed that bodily-kinesthetic intelligence is very prominent. Saricaoglu and Arican (2009) also showed that logical intelligence is very prominent, while Shayeghi and Hosseiniun (2005) found it to be the least prominent. Such incongruity with the latter indicates that the prominence of different types of MI is not universal, which means that not all learners should be taught in the same way. This further implies that every teacher should identify their students' intelligence profiles, become familiar with the ways their students learn new material, and create optimal learning conditions.

Table 2 MI types 1

	Multiple intelligence types								
	Naturalistic	Musical	Logical	Existential	Interpersonal	Kinesthetic	Verbal	Intrapersonal	Visual
Mean	4.13	4.77	5.31	4.41	4.30	5.06	4.48	6.59	4.67
Std. Deviation	1.73	1.99	1.88	2.21	2.04	2.15	2.04	2.31	2.18

Considering the frequency of teaching techniques engaging different types of MI, the results indicated that techniques suitable for displaying verbal intelligence are the most common (mean=3.80), closely followed by those suitable for interpersonal (mean=3.59) and intrapersonal (mean=3.48) intelligences. The teaching methods engaging naturalistic (mean=1.54) and kinesthetic (mean=1.63) intelligence are the least commonly experienced by grammar school students (Table 3). The fact that techniques engaging verbal intelligence are the most commonly experienced ones is not surprising, given that in educational contexts intelligence is traditionally understood as a combination of verbal and logical intelligences. Teaching and assessment techniques are constructed in such a way that knowledge and understanding of different phenomena are expected to be displayed verbally. The significant difference between the prominence of techniques pertaining to verbal intelligence, and those pertaining to naturalistic and bodily-kinesthetic intelligences, clearly indicates that the teaching and assessment techniques are biased, favoring students who can use words effectively, at the expense of those who would learn and display their knowledge more successfully through body movement. However, such techniques are the most economical. The understanding of a wide range of phenomena can be expressed through words, and clear and objective criteria are more easily set, requiring less effort on the part of the teacher than thinking of different ways to present and assess the same material would.

Table 3 Teaching techniques

	Teaching methods							
	Verbal-linguistic	Math-logic	Spatial/Visual	Bodily-kinesthetic	Musical	Interpersonal	Intrapersonal	Naturalistic
Mean	3.80	2.94	2.39	1.63	2.08	3.59	3.48	1.54
Std. Deviation	0.98	1.14	1.16	1.00	1.21	1.14	1.24	0.93

In exploring the correlation between the prominence of certain types of MI and the frequency of teaching techniques engaging them, the starting point was Christison's

(1998) claim that different types of intelligence among learners may result from the teaching methodology they were exposed to. However, the results showed that, in the majority of cases, there is no significant correlation between the types of MI among the grammar school students and the teaching techniques they experienced (Table 4 and Table 5). This explains the fact that kinesthetic intelligence is very prominent (Table 2), while the techniques engaging it are very rarely used (Table 3). However, there appears to be a positive correlation between naturalistic intelligence and the techniques engaging it ($r=0.26$), as seen in Table 4, and visual intelligence and techniques engaging it ($r=0.22$), as seen in Table 5. The results may be interpreted in two ways. The first option would be that intelligence is indeed affected by experience as much as by genetics, but that all intelligence types except visual and naturalistic had enough opportunity to develop in real-life contexts, while visual and naturalistic did not develop sufficiently and depend on their engagement in teaching techniques. The second option is to interpret the results as supporting the view of intelligence as resulting primarily from genetics, independently of experience, while visual and naturalistic intelligence require some external factors to be fully developed. Regarding the educational implications of the finding, it suggests that teachers should not focus on developing in their students a kind of intelligence they consider necessary for learning, but rather focus on becoming familiar with their students' intelligence profiles, and teaching beyond the traditional, namely visual and logical, intelligences.

Table 4 MI and techniques

Verbal Intelligence & Verbal-linguistic tm	Logical Intelligence & Logical tm	Visual Intelligence & Visual-spatial tm	Kinesthetic Int. & Kinesthetic tm
r	0.01	R	0.14
p	0.90	P	0.18

Table 5 MI and techniques

Musical Intelligence & Musical tm	Interpersonal Int. & Interpersonal tm	Intrapersonal Int. & Intrapersonal tm	Naturalistic Int. & Naturalistic tm
r	0.11	R	0.12
p	0.27	P	0.24

The data analyzed showed that gender does not significantly correlate with students' English language proficiency (Table 6) or types of intelligence (Table 7). These results are incongruent with Loori's (2005) claim that male participants have a higher level of logical intelligence, while female participants have a higher level of intrapersonal intelligence. Loori (2005) based his claims on male and female participants' preferences for learning activities involving either logical or intrapersonal intelligences. However, preferences for certain types of activities do not necessarily result from dominant types of intelligence. Activities involving intrapersonal intelligence are similar to the situations in which female individuals are often found, due to their socially conditioned roles, which require self-discipline and a high level of self-awareness. Similarly, activities which involve logical intelligence replicate situations in which male participants are often found, considering their everyday tasks and chosen jobs. This might lead to the conclusion that the preference for certain types of activities results from their perceived similarity to the tasks individuals are accustomed to performing.

Table 6 Gender and lang. proficiency

	Gender	Mean	Std. Deviation	Mean Difference	t	p
Language proficiency	Female	4.06	1.00	-0.32	-1.66	0.10
	Male	4.38	0.92			

Table 7 Gender and MI

MI	Gender	Mean	Std. Deviation	Mean Difference	t	p
Naturalistic	Female	4.12	1.57	-0.02	0.06	0.95
	Male	4.14	1.88			
Musical	Female	4.80	1.81	0.06	0.15	0.88
	Male	4.74	2.17			
Logical	Female	5.10	1.90	-0.42	-1.12	0.27
	Male	5.52	1.85			
Existential	Female	4.38	2.24	-0.06	-0.14	0.89
	Male	4.44	2.21			
Interpersonal	Female	3.96	2.05	-0.68	-1.69	0.10
	Male	4.64	1.99			
Kinesthetic	Female	5.24	2.11	0.36	0.84	0.41
	Male	4.88	2.19			
Verbal	Female	4.56	2.01	0.16	0.39	0.70
	Male	4.40	2.09			
Intrapersonal	Female	6.76	2.21	0.34	0.73	0.47
	Male	6.42	2.42			
Visual	Female	4.54	2.31	0.26	-0.60	0.55
	Male	4.80	2.05			

The questions of utmost importance for the educational implications of the research investigate the correlation between types of intelligence and success in education, and the correlation between types of intelligence and English language proficiency. Despite the widespread assumption that logical and verbal intelligences are prerequisites for success in education, the results showed that the only type of intelligence correlating with success in education is visual ($r=0.20$), as seen in Table 8. This may be because students are generally taught to study through working with pictures and colors, visualizing and drawing maps, rather than through techniques engaging other types of MI. Therefore, only students who naturally have a higher level of visual intelligence can fully utilize their studying potential, while others may not reach their maximum because their learning styles do not align with their natural ways of understanding different phenomena. Regarding the correlation between types of MI and English language proficiency, it was hypothesized that learners with higher verbal and interpersonal intelligences would have a higher level of language proficiency. However, the results showed a positive correlation only between existential intelligence ($r=0.25$) and visual intelligence ($r=0.21$) and language proficiency in general (Table 8), which is incongruent with Razmjoo's (2008) claim that none of the types of MI is a predictor of language proficiency. The correlation with visual intelligence may be understood in the same way as its correlation with success in education. The

influence of existential intelligence may result from the fact that English language proficiency was measured by grades in English, and the tasks for grammar school students often require them to display their knowledge by expressing reflections on the meaning of life and human conditions, such as death or love, through speaking and writing.

Table 8 MI and language proficiency/GPA

MI		Lang. Prof.	GPA
Naturalistic	r	0.04	0.00
	p	0.71	0.96
Musical	r	0.09	0.05
	p	0.38	0.59
Logical	r	0.15	0.07
	p	0.15	0.49
Existential	r	0.25	0.09
	p	0.01	0.38
Interpersonal	r	0.00	-0.03
	p	0.98	0.77
Kinesthetic	r	-0.03	0.07
	p	0.76	0.48
Verbal	r	0.20	0.14
	p	0.05	0.18
Intrapersonal	r	0.14	0.15
	p	0.17	0.13
Visual	r	0.21	0.20
	p	0.03	0.04

The results presented in Table 9 showed positive correlations between types of MI and students' receptive and productive language skills, as well as their knowledge of grammar and vocabulary. The results of previous research on the relationship between MI and writing skills are not uniform. For instance, Sadeghi and Farzizadeh (2002) found that writing ability is not affected by any component of MI, Hosseini (2012) discovered a significant contribution of verbal intelligence, while Marefat (2007) concluded that existential, kinesthetic and interpersonal intelligences predict good writing skills. The current results showed positive correlations of visual intelligence ($r=0.28$), existential intelligence ($r=0.26$), musical intelligence ($r=0.22$), and verbal intelligence ($r=0.21$) with writing abilities. The correlation with visual and musical intelligences may be explained by the capacity of individuals to visualize and graphically represent outlines and steps in writing, making the process more efficient and the outcome well-constructed, as well as to recognize and apply rhythmic patterns in writing, ensuring cohesion and a natural flow of ideas. The roles of existential and verbal intelligences are clear, as they indicate the capacity to pose and ponder interesting questions, using abstract reasoning and symbolic thinking, and to express ideas effectively through words. Regarding students' speaking skills, the results were expected to confirm Yeganehfar's (2005) findings that interpersonal intelligence predicts better speaking skills. However, the results showed positive correlations between speaking and visual intelligence ($r=0.29$), musical intelligence ($r=0.25$), existential intelligence ($r=0.24$), as well as logical intelligence ($r=0.20$). The effects of visual, musical and existential intelligence can be understood in a similar way as their effects on writing abilities. The correlation between speaking and

logical intelligence results from the fact that effective speaking and productive discussions require sensitivity to logical patterns and relationships between statements and propositions, enabling rapid and effective abstract reasoning. Regarding the correlation between listening skills and types of MI, the results confirmed Bemani Nacini & Pandian's (2010) claims that listening skills are not correlated with any component of MI. On the other hand, the results showed positive correlations between reading and existential intelligence ($r=0.33$), visual intelligence ($r=0.29$), verbal intelligence ($r=0.26$), intrapersonal intelligence ($r=0.24$), and musical intelligence ($r=0.23$). The influence of visual, verbal, musical and existential intelligences can be understood in terms of the capacity to visualize abstract concepts, graphically present ideas to facilitate their understanding, recognize patterns of thought and expression, and engage in abstract reasoning and symbolic thinking. The positive correlation between intrapersonal intelligence and reading skills may result from the fact that a person with well-developed self-knowledge integrates the read material into a well-defined view of the world, including clear attitudes, motivations and intentions. An individual's understanding of new phenomena often starts with a clear understanding of themselves. Logical and visual intelligences are positively correlated with grammar school students' knowledge of grammar (visual $r=0.23$, logical $r=0.22$), as well as with their knowledge of vocabulary (visual $r=0.20$, logical $r=0.20$). Grammar and vocabulary of a language are complex systems, so their acquisition requires sensitivity to logical patterns and relationships, as well as the capacity to visualize and graphically represent abstract concepts. For instance, the concepts of grammar such as conditionals require abstract reasoning to understand the nature of situations and their temporal relations. Vocabulary knowledge requires extensive mental imagery, while systematic reasoning aids in understanding word building processes and making generalizations to facilitate learning.

Table 9 MI and language skills

MI		Speaking	Writing	Listening	Reading	Grammar	Vocabulary
Naturalistic	r	0.02	-0.05	-0.07	0.07	0.07	0.00
	p	0.82	0.63	0.46	0.48	0.47	1.00
Musical	r	0.25	0.22	0.07	0.23	0.04	0.18
	p	0.01	0.03	0.51	0.02	0.70	0.08
Logical	r	0.20	0.13	0.04	0.20	0.22	0.20
	p	0.05	0.20	0.70	0.05	0.03	0.04
Existential	r	0.24	0.26	0.19	0.33	0.17	0.19
	p	0.02	0.01	0.06	0.00	0.08	0.06
Interpersonal	r	0.02	0.00	-0.07	0.06	0.13	0.02
	p	0.88	0.97	0.50	0.56	0.21	0.81
Kinesthetic	r	-0.03	-0.02	-0.03	0.08	-0.05	0.06
	p	0.79	0.86	0.77	0.46	0.63	0.55
Verbal	r	0.14	0.21	0.10	0.26	0.18	0.07
	p	0.18	0.03	0.33	0.01	0.08	0.48
Intrapersonal	r	0.16	0.14	0.13	0.24	0.19	0.11
	p	0.12	0.17	0.20	0.02	0.06	0.29
Visual	r	0.29	0.28	0.17	0.29	0.23	0.20
	p	0.00	0.01	0.10	0.00	0.02	0.04

4. CONCLUSION

Gardner's theory of MI is student-centered, implying the necessity of changes in traditional teaching methods in the classroom to accommodate various types of learners. A fundamental concern for a teacher should be to understand the ways in which learners differ from one another, as a particular teaching method or textbook may not be suitable for all students. One way to address students' needs is to consider their intelligence profiles and teach them through activities that engage their types of intelligence. The current research showed that the most prominent types of MI among grammar school students are interpersonal, logical and kinesthetic, which implies that EFL teachers in grammar schools should use teaching methods that rely on these intelligences. However, it is advisable for each teacher to assess their students' intelligence profiles before deciding on which teaching techniques to emphasize. The most commonly used teaching techniques are those engaging verbal, interpersonal and intrapersonal intelligences, regardless of the fact that these do not correspond to the types of intelligences the majority of students possess. Another point to highlight is that the dominant types of intelligence among grammar school students do not result from the teaching techniques they have experienced, but rather seem to be inherited. This implies that teachers should not try to force the development of types of intelligences that are widely accepted as prerequisites for success. Instead, teachers should adapt their teaching techniques to accommodate their learners' intelligence profiles. Analyzing the ability to predict success in education or language proficiency based on dominant intelligences, it was concluded that success in education can be predicted by a higher level of visual intelligence, while visual and existential intelligences positively correlate with language proficiency. Regarding specific language skills, as well as grammar and vocabulary knowledge, it can be said that musical, existential, verbal and visual intelligences predict better writing skills; musical, logical, existential, and visual intelligences predict success in speaking; reading skills are influenced by higher existential, visual, verbal, intrapersonal and musical intelligences, while listening skills do not correlate with any component of MI. In conclusion, the EFL classroom should not be a place where only traditional verbal and logical intelligences are appreciated and relied upon. The experience of using a foreign language encompasses the abilities that define all types of intelligence. Students should be provided with opportunities to learn and demonstrate their understanding through techniques related to all types of intelligence, as this will ensure that the teaching process is not biased, and better replicates real-life uses of language.

REFERENCES

- Baum, S., Viens, J. & Slatin, B. (2005). *Multiple Intelligences in the elementary classroom*. New York: Educators College Press.
- Bemani Naeini, M., & Pandian, A. (2009). On the relationship between Multiple Intelligences, listening proficiency, and motivational orientation among Iranian TEFL university students. *Iranian EFL journal*, 4, 41-70.
- Christison, M.A. (1996). Teaching and learning language through Multiple Intelligences. *TESOL Journal*, 6, 10-14.
- Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.
- Gardner, H. (1993). *Multiple Intelligences: The theory in practice*. New York: Basic Books.
- Gardner, H. (1999). *Intelligence reframed*. New York: Basic Books.
- Hosseini, F. (2012). A Study of the Relationship Between Iranian EFL Learners' Multiple Intelligences and their Performance on Writing. *Mediterranean Journal of Social Sciences*, 3(1), 111-126.

- Javanmard, Y. (2012). On the relationship between Multiple Intelligences and their performance on vocabulary tests among Iranian EFL learners. *Global Journal of Human Social Science*, 12(12), 61-73.
- Loori, A.A. (2005). Multiple intelligences: a comparative study between the preferences of males and females. *Social Behaviour and Personality*, 33(1), 77-88.
- Mahdavi, B. (2008). The Role of Multiple Intelligences (MI) in listening proficiency: A comparison of TOEFL and IELTS listening tests from an MI perspective. *The Asian EFL Journal*, 10(3), 109-126.
- Marefat, F. (2007). Multiple Intelligences: Voices from an EFL writing class. *Pazhuhesh-e Zabanha-ye Khareji*, 32 (special issue in English), 145-162.
- Nelson, K. (1998). *Developing students' multiple intelligences*. New York: Scholastic.
- Panahi, A. (2011). Relationship between Multiple Intelligences and learning grammar. *Iranian EFL Journal*, 7(5), 139-163.
- Razmjoo, S.A. (2008). On the relationship between multiple intelligences and language proficiency. *The Reading Matrix*, 8(2), 155-174.
- Sadeghi, K., & Farzizadeh, B. (2012). The Relationship between Multiple Intelligences and Writing Ability of Iranian EFL Learners. *English Language Teaching* 5(11), 136-142.
- Saricaoglu, A., & Arican, A. (2009). A study of multiple intelligences, foreign language success, and some selected variables. *Journal of Theory and Practice in Education*, 5(2), 110-122.
- Sayeghi, R., & Hosseiniun, P. (2015). The Relationship between Iranian EFL Learners' Multiple Intelligences and Their Performance on Grammar Tests. *International Journal of Social, Behavioral, Educational, Economic and Management Engineering*, 9(9), 2597-2601.
- Snyder, R.F. (2000). The relationship between learning styles/multiple intelligences and academic achievement of high school students. *The High School Journal*, 83(2), 11-20.
- Yeganehfar, B. (2005). *Investigating the relationship between proficiency in a foreign language and multiple intelligences*. Tehran: University of Allameh Tabatabaei.

VEZA IZMEĐU VIŠESTRUKIJE INTELIGENCIJE I USPEHA U UČENJU ENGLESKOG JEZIKA KAO STRANOG

Cilj ovog rada jeste da prikaže istaživanje odnosa višestruke inteligencije, pojma predloženog od strane Gardnera (1993), i uspeha u učenju engleskog jezika kao stranog (izmerenog ocenom iz engleskog jezika) među 100 gimnazijalaca u Srbiji. Mekenziјеvo (1999) Istraživanje višestruke inteligencije korišćeno je za identifikaciju profila inteligencije učenika gimnazija, pokazujući da su najistaknutiji tipovi inteligencije intrapersonalna, logička i kinestetička. Rezultati analize nezavisnih uzoraka t-testom pokazuju da pol ne utiče ni na višestruku inteligenciju ni na znanje jezika. Rezultati Pirsonove korelacije sugerišu da je opšte poznavanje jezika u pozitivnoj korelaciji sa vizuelnom i egzistencijalnom inteligencijom, dok su različite vrste produktivnih i receptivnih jezičkih veština (zajedno sa znanjem gramatike i vokabulara) u pozitivnoj korelaciji sa muzičkom, egzistencijalnom, vizuelnom, logičkom i verbalnom inteligencijom. Rezultati Pirsonove korelacije takođe ukazuju da nije moguće razviti određene vrste inteligencije korišćenjem nastavnih tehnika koje ih angažuju. Istraživanje ima značajne obrazovne implikacije, sugerišući da nastavnici treba da identifikuju profile inteligencije svojih učenika i da shodno tome prilagode svoje nastavne tehnike, umesto da pokušavaju da forsiraju razvoj verbalne i logičke inteligencije, koje se, očigledno pogrešno, smatraju preduslovima za uspeh u učenju.

Ključne reči: višestruka inteligencija, znanje jezika, podučavanje usmereno na učenika