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The Predicting Power of Gardner's Eight Gates of Intelligences Explored in Listening Comprehension

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Abstract: This study investigated the possible relationship between Gardner's [1] eight intelligence types and listening comprehension of 75 (39 females and 36 males) intermediate EFL learners. Inherent in this investigation was the assumption that not all the eight gates of intelligence predict success in the target language listening tasks to the same strength because this relationship may vary depending on the context where it is investigated. To measure the participants' multiple intelligences and listening proficiency, a highly reliable MI-based questionnaire developed by Armstrong [2] and a TOEFL Listening test were applied. Using the enter method, a significant model emerged from the data submitted to a series of multiple regression analyses. In addition, of the eight intelligences, visual and interpersonal intelligences showed a strongly positive relationship with the listening test scores of both males and females. It was concluded that intelligences-based EFL instruction grants opportunities to discover, value and enhance the talents of EFL learners in better tackling language learning. However, it should be highlighted that context plays a significant role in shaping the learners' intelligence.

Key words: Multiple intelligences · Listening comprehension · Context

INTRODUCTION

Learners' of English as a Foreign Language (EFL) diverse characteristics make the tasks of educational teachers daunting. The most crucial contribution that EFL education can make to learners' development is to lead them towards a direction where their inside talents best suit them. It seems, thus, that educationalists must provide the learners with sufficient opportunities to find out their own existing differences and potentials. To create effective EFL learning contexts, very many researchers have resorted to theory of intelligences [1] known as multiple intelligences (MI) proposing that all learners are born with a full range of talents and potentials among which some are naturally robust and some are weaker in each learner.

As regards learners' talents and potentials, a variety of common pitfalls are evident in EFL situations. Learners, at whatever level and from whatever language background, have long been deprived of accessing to materials and tasks in line with maximizing their knowledge of intelligences and self-exploration in the real life of learning not only in the era of language learning in general but also in every specific language skill. With respect to listening comprehension as one of the major themes of the current study, some researchers have prioritized MI-theory and paved the path towards efficient listening skills through the eight gates of intelligences.

Review of the Literature: A closer look at the literature review discloses that a number of MI-tailored studies have recently been carried out in the realm of EFL skills and many other language related scopes. A small body of work, however, has been carried out to suggest that there is merit to the idea that listening proficiency is associated with some of Gardner's eight intelligences. Believing that several aspects of listening proficiency might interact with different intelligences, Mahdavy [3] compared the performance of 151 EFL learners on TOEFL and IELTS listening tests with reference to the students' multiple intelligences. In his study, 151 language learners took TOEFL listening test and 117 of the same participants participated in the IELTS listening test. Along with these two listening tests, the participants were also given a

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Multiple Intelligence Development Assessment Scale (MIDAS). The results indicated that only linguistic intelligence had a statistically significant correlation with listening proficiency as measured by TOEFL and IELTS. Mahdavy [3] proposes that all stages of processing from sound perception to syntactic parsing and semantic analysis can be related to linguistic intelligence.

In the same vein, Saricaoglu and Arikan, [4] conducted a study to investigate the relationship between particular intelligence types and 140 intermediate EFL learners' success in grammar, listening and writing in English as a Foreign Language. Data, collected through a series of proficiency scales and an MI inventory for adults, indicated that intrapersonal, linguistic, logical and musical intelligences were more common among participants. In addition, as regards listening comprehension, corrrelational results showed that, except for musical intelligence, the six other intelligence types showed negative correlations with the listening success of the participants. This was partly in agreement with the study conducted by Razmjoo [5] and Naeini and Pandian [6] who reported no significant relationship between language success and the eight types of intelligences as a whole or in an isolated fashion.

Some investigations, reporting mixed results, have embarked on other language skills in different contexts. The study by Fahim, Bagherkazemi and Alemi [7], for example, marked the significant correlation between verbal-linguistic and logical-mathematical intelligences and TOEFL reading scores of the participants. With regard to EFL writing, Marefat [8] highlighted the strong contributions of bodily-kinesthetic and interpersonal intelligences to EFL learners' writing ability. However, Farzizade [9] contradicted the findings of the prior study and found no significant relationship between EFL students' writing ability and their eight types of intelligences.

What all these mixed findings imply is that exposure to a variety of contexts might influence such a distinction between individuals differently; therefore, experts need to deeply consider every specific environment at the leading edge of education, so that an individual-centered environment that optimally gears into comprehending and appreciating each learner's cognitive profile will be clearly defined in every EFL context. This necessitates continuous studies on Gardner's proposal of MI issue in every specific context the results of which establishes an optimally fixed profile of the learners in each specific context. In this line of research, the present study, concentrating on listening comprehension skill, was motivated to continue the previous investigations in order to help shape the MI profiles of the Iranian EFL learners. It was hoped that this study would pave the way towards the use of developing flexible curriculum and instruction that taps into students' interests and talents. Inherent in this investigation was the assumption that there is a significant relationship between the eight gates of intelligence and listening comprehension, however, this relationship may vary depending on the context where it is investigated.

Method

Participants: Originally, a total of 92 randomly selected intermediate Iranian EFL learners were surveyed in the current study. However, since some features of participants (e.g. age, motivation, etc) were to be held constant, the number of the participants was reduced to 75 learners including 39 females and 36 males who fell within the age range of 21-25.

Instruments: In order to collect the required data, a number of instruments (See Appendix A) including an MI-based Questionnaire and a TOEFL Listening Test were employed. The MI based questionnaire consisted of three parts eliciting data on, (a) demographic information; (b) motivation assessed through a statement, adapted from Gardner [10], followed by 15 sentences for which the participants were asked to write the number corresponding to how well they agreed with the statement; and (c) the MI profiling section with 50 items designed and validated by Armstrong [2]. A retired version of the TOEFL Listening Test (Barron's Educational Series, 1999) that includes 28 items was applied in order to measure listening proficiency of the participants. Both the instruments were piloted to similar participants (N=35) yielding acceptable reliability estimates (r=.72, r= .78), respectively.

RESULTS

Prior to reporting and reflecting on the results of the data analyses, it is important to point out the research questions and hypotheses with the aim of better organizing and directing the findings of the study towards the study's pedagogical objectives. As it was already concentrated, this study was run to answer the following questions.

- What is the general pattern of Gardener's eight intelligence types among the Iranian intermediate EFL learners?

Table 1: Participants' Multiple intelligences Profiles

Participants	Range	Min	Max	X	Std. Deviation
Intrapersonal	15	9	24	17.00	3.226
Interpersonal	18	7	25	18.79	4.01
Kinesthetic	20	5	25	15.99	4.99
Linguistic	20	5	25	19.21	3.30
Logical	15	10	25	18.48	4.06
Visual	20	5	25	17.69	5.00
Musical	20	5	25	18.43	4.29
Naturalist	20	5	25	17.2	3.94

Table 2 Descriptive Statistics: Adapted TOEFL Listening Test

Group	N	Range	Min	Max	Mean	SD
Female	39	11	10	21	14. 47	3. 318
Male	36	12	12	24	15	3.421

Table 3: ANOVA: Male Participants

	Model	Sum of Squares	df	Mean Square	F	Sig.	R
1	Regression	72.071	8	9.009	. 909	. 524a	. 212
	Residual	267.568	27	9.910			
	Total	339.639	35				

a. Predictors: (Constant), naturalist, interpersonal, intrapersonal, visual, logical, linguistic, musical, kinesthetic

b. Dependent Variable: Listening Comprehension

Table 4:Coefficients (Males)

	Standardized Coefficients	
Model/ Predictor variable	Beta	P
1 (Constant)		. 000
Intrapersonal	. 049	. 668
Interpersonal	. 270	. 014
Kinesthetic	. 264	. 053
Linguistic	. 234	. 102
Logical	-0.27	. 016
Visual	. 343	. 007
Musical	-0.57	. 000
Naturalist	-0.07	. 569

a. Dependant Variable: Listening comprehension

Table 5 ANOVA: Female Participants

	Model	Sum of Squares	df	Mean Square	F	Sig.	R
1	Regression	208.600	8	26.075	3.474	. 006a	. 481
	Residual	225.143	30	7.505			
	Total	433.744	38				

a. Predictors: (Constant), naturalist, interpersonal, intrapersonal, visual, logical, linguistic, musical, kinesthetic

Table 6: Coefficients: Female Participants

	Standardized Coefficients	
Model	Beta	Sig.
1 (Constant)		. 016
Intrapersonal	_ . 024	. 884
Interpersonal	. 387	. 010
Kinesthetic	. 314	. 135
Linguistic	. 163	. 471
Logical	_ . 469	. 006
Visual	. 467	. 010
Musical	_ . 417	. 042
Naturalist	_ . 014	. 933

a. Dependent Variable: listening comprehension

- Which one of Gardner's proposed intelligences significantly predicts successful performance in listening tasks?

The tabulated mean scores (Table 1) are magnified to highlight the most frequent intelligences of the participants. By now, the first research question that probed the general pattern of the intelligence types, measured through the MI profiling tool (Appendix A), among a representative sample of Iranian EFL learners can be answered. As indicated in Table 1, the participants mean scores were highly recognizable in the areas of linguistic, interpersonal, logical and musical intelligences labeling the mean values of 19.21, 18.79, 18.48 and 18.43, respectively.

As mentioned previously, we were interested in finding out which one of the Gardner's eight intelligences contribute significantly to listening proficiency of EFL learners. As gender is believed to highly contribute to different patterns of intelligences, we decided to analyze the findings distinctly across gender. The current section represents the tabulated numerical values that disclose results of the participants' performance in the TOEFL listening test (Table 2) and the significant models emerging from multiple regression analyses.

Using the enter method, a significant model (F 1.96= .909, $p< 0.05$. Adjusted R square .212) emerged as regards the relation between the intelligence types and listening performance of male participants. Significant values are presented in Tables 3 and 4.

Table 4 indicates estimated values of regression coefficients, corresponding standard errors and the obtained values for t.

Except for kinesthetic, linguistic and naturalist intelligences, the tabulated data indicate that regression coefficients related to the musical, visual, logical and

interpersonal intelligences are statistically significant at 0.05 level. In other words, interpersonal and visual intelligences with ß values equal to .270 and .343, respectively, contribute more to the performance of the male learners in the TOEFL listening test. Musical intelligence (ß= -.566) and Logical intelligence (ß =-.277) have a statistically significant relationship with the listening proficiency in the opposite direction (i.e. negative relationship); as the values for the intelligence increase, the score on the TOEFL Listening test decrease.

The same procedures yielded somehow similar results (Tables 5 and 6) among females. In other words, the enter method provided a significant model with stronger results, though, (F 1.96= 3.474, p< 0.05. Adjusted R square .481) among females.

A somehow similar pattern was obtained among females. In other words, similar intelligence types (i.e. visual and interpersonal intelligences) turned out to be correlating positively with the performance of the female participants in the TOEFL listening test. Intrapersonal, kinesthetic, linguistic and naturalist intelligences, on the other hand, did positively contribute to effective performance in listening tasks.

DISCUSSION AND CONCLUSION

As already discussed the ultimate goal in all learning situations should be to accentuate the merit of the intelligences and to teach and reinforce their development in every EFL learner. In other words, for EFL learners to be successful, they need to be capable of finding a context in which their potential strengths come to the fore and their weaknesses are diminished. In a nutshell, the present study concentrated on providing the MI profile of Iranian EFL learners to establish its possible relationship with EFL learners' listening comprehension. The EFL learners accentuated linguistic, interpersonal, logical and musical intelligences as their dominant intelligences; and among the eight types of intelligences, visual and interpersonal intelligences across both genders were highlighted as the most significantly positive predictors of success in listening comprehension tasks. This supports the idea that the ability to understand the feelings, intentions and motives of other people, as well as their social and cultural backgrounds (interpersonal intelligence) along with the ability to sense form, color, line and shape, visual perception of the environment, the ability to create and manipulate mental images and the orientation of the body in space, sensitivity to attributes about personal space and listeners' ability to spatially organize incoming information (visual intelligence) seem to interact with the listening skills of the EFL learners [3,4,10].

The positive claims of the current article is a guarantee for the other positive trends of MI-based approaches to EFL education that have recently been shown by Aziri [11] and Sólmundardóttir [12] who investigated and proved the positive relationship between multiple intelligences and language learning .

However, a look at the literature review reveals that the findings of this study run a counter on the findings by Saricaoglu and Arikan [4] who showed logical-mathematical intelligence as the only contributing factor in language learning. Moreover, the dominance of the intelligences in the present study is contrary to those of Saricaoglu and Arikan [4] that statistically marked verbal-linguistic and musical intelligences as the least dominant ones. The reason for these contradictory outcomes can be the different learning environment factors, age or different study levels. It can be assumed that EFL learners' multiple intelligences are gradually rolling upon the educational continuum as they are growing up.

In order for the theory of MI to be potently implemented, all constituencies in the schools, EFL institutes and other educational environments should be in pursuit of understanding and embracing this model. In a deeper sense, it means that not only the teachers, administrators, curriculum developers and EFL practitioners but also students and parents need some basic knowledge of MI theory for the implication to be as illuminating as possible. To share this information with all members of the educational contexts is an essential and critical phase in the process of appreciating multiple intelligences in every learning environment especially in Iranian EFL context.

The more crucial consideration for teachers, for example, is to rather than merely focusing on linguistic and logical-mathematical intelligences, they should provide opportunities for the learners who are robust in certain other intelligences. Such a genuine teaching fashion would be highly rewarding for the students themselves because they will deeply witness and explore a new love of learning in their EFL life span.

As regards effective listening comprehension instruction, nevertheless, teachers can provide appropriate opportunities through designing and presenting various listening tasks and activities for the

learners with highly developed visual and interpersonal intelligences to carry out listening activities more successfully. This is recommended by Campbell, Campbell, Dickinson [13] who put forward some helpful suggestions for various listening activities. They state that learners with high visual intelligence can perform activities such as maps, charts, diagrams and visual organizers, guided visualization and visual memory techniques. They can also create drawings, word configurations and personal flowcharts in order to improve their listening skills. Those learners with highly developed interpersonal intelligences can take part in collaborative activities such as role plays, games requiring team-work, pair work and group discussions.

For any sort of comment to be effective, it should be notified that when dealing with EFL learners' listening, reading, writing, speaking skills and many other language learning aspects; Howard Gardner's' eight types of intelligences might or might not have meaningful relationships with or significant effects on EFL learners performance due to a variety of existing educational, curricular, environmental, individual and many other factors. Consequently, findings of any MI-related projects or studies require a great deal of caution when generalizing to other EFL contexts. We must bear in mind that, although as Hoerr [14] assumes, using the different intelligences would sound like fun for the learners; and that use of various intelligences is a window into real-world experiences that can be used in the classroom, the use of our strongest intelligences would bring about success in the process of learning while adhering to weakest intelligences might hinder our learning. Consequently, whether or not all eight intelligences are to be taken equally important in the classroom and if strong emphasis to be placed on all intelligence types, as Gardner [10] recommendeds, awaits further investigation.

Part I. Demographic Information: Please answer the following questions.

Your name/ student ID (optional) :

- Gender: _____ Male _____ Female
- Age group: a) 16-20 b) 21-25 c) 26+

Part II. Feelings and Motivation: Listed below are some possible reasons why a student like you might choose to study English, along with a scale to show how strong a reason it might be. Please think each reason and circle the number which indicates how strong a reason it was in your case.

- 5: strongly agree, 4: slightly agree, 3: neutral (no opinion), 2: slightly disagree 1: strongly disagree

"Studying English is important because ...."

		Your score
1	It will allow me to be more at ease with English-speaking people.	
2	It will allow me to meet and converse with more and a variety of people.	
3	It will enable me to better understand and appreciate English art and literature.	
4	I will be able to participate in the activities of other cultural groups.	
5	I will need it for my future career.	
6	I think it will make me a more knowledgeable person.	
7	I think it will someday be useful in getting a job.	
8	Other people will respect me more if I have knowledge of a foreign language.	
9	I want to read the literature of English culture in the original language rather than a translation.	
10	It will enable me to read newspapers and magazines in English.	
11	My parents encouraged me to.	
12	I want to travel to countries where English is spoken.	
13	I thought that studying English would be an interesting to do.	
14	I want to spend time in an English-speaking country as an exchange or 'study abroad' student.	
15	I have friends who speak English and I want to be able to converse with them.	

Part Iii. Mi Profile

1: Not at All like Me, 2: a Little like Me, 3: Somewhat like Me, 4: a Lot like Me, 5: Definitely me

Intrapersonal	Your score
I have a deep sense of awareness of inner feelings, strengths and weaknesses.	
I have a strong sense of independence, strong will and am self-directed.	

Continue

Intrapersonal	Your score
I prefer my own private world/time to large group functions.	
I like to be alone to pursue personal hobbies, interests, or projects.	
I have a deep sense of self confidence.	
I like being with people more than being alone.	
I have many friends.	
I enjoy socializing in a variety of different situations and places.	
I learn best through group activities.	
I am good at communicating, organizing and sometimes even manipulating people.	
Bodily/Kinesthetic	
I learn best by moving, touching and/or acting out information.	
I process most of my knowledge through my senses.	
I have well defined ability in fine and gross motor skills.	
I enjoy taking things apart and putting them back together.	
I can mimic other people's mannerism well.	
Verbal/Linguistic	
I enjoy reading, writing and listening.	
I enjoy jokes, tell tales and stories.	
I easily remember names, places, dates and other trivia.	
I can spell accurately and have a highly developed vocabulary.	
I like crossword puzzles or playing word games.	
Mathematical/Logical	
I like to explore patterns, categories and relationships of information.	
I can compute math problems easily and quickly.	
I can group, order, analyze, interpret and predict data.	
I enjoy strategy games (e.g. chess) and like to win.	
I ask a lot of questions about things at work.	
Visual/Spatial	
I think in pictures and images.	
I like to draw, paint sculpt and engage in other art activities.	
I use clear visual images when thinking about concepts and explaining information.	
I can draw accurate representations of people or things.	
I tend to daydream when learning new information.	
Musical	
I am highly aware of sounds within the environment.	
I typically play music when working or relaxing.	
I can easily remember melodies of songs.	
I generally know when music or a note is off key.	
I tend to sing, hum and keep rhythm.	
Naturalist	
I enjoy categorizing things by common traits.	
Putting things in hierarchies makes sense to me.	
I believe recycling is important.	
I enjoy learning about plants and animals	
I spend a great deal of time outdoors.	

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