Multiple Intelligences (MI) Representation in *Prospect* Series and the MI Profile of Iranian Junior High School Students: A Compatibility Perspective

Seyyedeh-Mahsa Amini
Department of English Language and Literature, Faculty of Humanities, Arak University
Arak, **Iran**
Moussa Ahmadian
(Corresponding Author)
Department of English Language and Literature, Faculty of Humanities, Arak University
Arak, **Iran**
Hooshang Yazdani
Department of English Language and Literature, Faculty of Humanities, Arak University
Arak, **Iran**
Hamid-Reza Dowlatabadi
Department of English Language and Literature, Faculty of Humanities, Arak University
Arak, **Iran**

ABSTRACT

Textbooks play a central role in teaching and learning processes, and textbook evaluation helps teachers to be familiar with merits and demerits of a particular textbook, to adapt and supplement textbooks, and to develop new materials. This study aims to evaluate *Prospect* series, the junior high school English textbooks in Iran, based on Bothelho's (2003) checklist on the representation of Gardner's (1983) multiple intelligences (MI) theory and to analyze their compatibility with Iranian junior high school students' (IJHSS) MI profiles based on Multiple Intelligences Developmental Assessment Scale (MIDAS-kids) questionnaire. To this end, 68 English teachers and 300 high school students completed Bothelho's checklist and MIDAS questionnaire, respectively. Descriptive statistics and chi square goodness-of-fit analyses were applied. The results revealed that visual/spatial, verbal/linguistic, and intrapersonal intelligences were the most frequent types of intelligences represented in *Prospect* series, while interpersonal, linguistic, and intrapersonal intelligences were dominant in IJHSS' MI profiles. The paper concludes that student's books and workbooks of *Prospect* series did not cater for the interpersonal, kinesthetic, musical, and naturalistic intelligences of IJHSS. The findings of the study may have some implications for textbook designers to take into account all types of intelligences to satisfy teachers and learners, and thus to make textbooks more interesting and more effective.

1. Introduction

Textbooks are the most extensively applied resources in English teaching classes and provide a road map and security for learners (Bahumaid, 2008). A textbook or course book is a language-learning material whose evaluation refers to the systematic appraisal of its value with regard to its aims (Tomlinson, 2011). McCullagh (2010) maintains that textbook evaluation helps teachers in deciding on an appropriate textbook, in being familiar with merits and demerits of a particular textbook, in comparing different textbooks, in adaptation and supplementation of textbooks, and in the development of materials.

Razmjoo and Jozaghi (2010) emphasize the need for a framework for textbook analysis and evaluation based on students' different capabilities and needs. Accordingly, they refer to the MI theory (Gardner, 1983) as a framework for the analysis and evaluation of textbooks. Enhancing students' understanding is the ultimate aspiration of the MI theory through which students' different capacities, needs, interests, preferences, and satisfactions are identified (Gardner & Hatch, 1989).

The MI theory refers to different intelligences and capabilities of human beings in processing information with respect to their specific intelligence profile

(Gardner, 1983). Intelligences are important dimensions in the discussion of individual differences in education, language teaching, textbook selection, and designing textbooks (Gholampour, Kasmani, & Talebi, 2013; Nicholson-Nelson, 1998). Regarding the role of the MI theory in language teaching and learning, Kirkgoz (2010) asserts that the MI theory can be used in the language curricula and the design of textbooks. By analyzing ELT textbooks in terms of MI representation, the possible complementary exercises may be identified (Gholampour et al. 2013). In spite of the existing research body on textbooks, the *Prospect* series has not been touched upon to date regarding the representation of MI. As the series makes the textbooks which are used in Iranian high schools, the evaluation of the series from different perspectives, including the MI theory, may be of educational values and benefits for textbook writers and teachers. Thus, to fill in the gap, the present study aimed to analyze these textbooks, including student's books and workbooks, in terms of the representation of MI. By knowing and understanding students' MI profiles and their preferences, appropriate learning activities that improve their learning process can be distinguished and effective classroom activities can also be designed (Emmiyati, Rasyid, Rahman, Arsyad, & Dirawan, 2014). In view of these, the study establishes Iranian junior high school students' (IJHSS) MI profiles through Multiple Intelligences Developmental Assessment Scale (MIDAS-kids) and MI profiles of *Prospect* series via Botelho's (2003) checklist to explore the amount of their compatibility.

2. Literature Review

Gardner (1983) introduced the theory of Multiple Intelligences (MI). His theory "is biologically based…[and makes] a claim about how the brain has evolved and how it is organized … [each] intelligence has its own developmental trajectory" (p.30). Gardner (2006) states that after the demise of the unitary concept of intelligence and intelligence quotient (IQ), these concepts needed to be modified. Gardner (1983, 2011) defines intelligence in three different ways. To him, intelligence is "[a] property of all human beings…[a] dimension on which human beings differ…[t]he way in which one carries out a task in virtue of one's goals…" (2011: xv). This last definition is closely related to his theory of MI. Gardner (1983) maintains that IQ concept needs to be redefined to include all types of individual's capacities to process information.

Primarily, Gardner (1983) introduced seven different and independent intelligences in human beings, namely verbal-linguistic, logical-mathematical, musical, spatial-visual, bodily-kinesthetic, interpersonal, and intrapersonal intelligences. Later, due to the evidence of the presence of two new intelligences, he added naturalistic (Gardner, 1995) and existential intelligences (Gardner, 1999) in order to extend his theory of MI.

According to Gardner (2011), verbal-linguistic intelligence refers to the capacity to use language through listening, speaking, reading, and writing. Musical intelligence relates to the sensitivity to melody, tonal patterns, and rhythm. Logical-mathematical intelligence deals with logical thinking and reasoning both inductively and deductively; it involves the ability to work with abstract symbols and numbers. Spatial-visual intelligence deals with space and visual perceptions like visual arts, architecture, painting etc.. Bodily-kinesthetic intelligence deals with the ability to express emotions and ideas by using one's body and physical skills like dancing and acting. Interpersonal intelligence relates to the ability to communicate with others and being able to demonstrate emotions and feelings in the community of others. Intrapersonal intelligence is the ability to understand personal feelings, thoughts, and one's own manner. In defining naturalistic intelligence, Gardner (2006) refers to the understanding of nature, natural events, living things, and the ability to distinguish organisms from entities. Existential intelligence is the capacity to locate oneself in the cosmos. It relates to the ability to understand the meaning of life and death and to the capacity to ask questions about life and death (Gardner, 2006). Existential intelligence is disregarded in this study due to using Botelho's (2003) checklist and Shearer's (1996) MIDAS-Kids questionnaire in which existential intelligence is not taken into account.

The MI theory concerns individuals disparity in processing information; thus, an individual's profile of MI might well differ in doing different tasks and solving various problems (Gardner, 1999). In this view, the MI profiles of students can aid knowing their preferences; therefore, appropriate practices and activities can be designed and presented to improve their learning process (Emmiyati et al., 2014). To do so, textbooks,
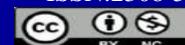
by providing learning activities, which should satisfy students' needs (Byrd & Schuemann, 2014) and be appropriate to their learning styles, emotions, and intellectual engagements (Tomlinson, 2011), may motivate them to use their intelligences (Currie, 2003). Furthermore, MI-based teaching materials and strategies positively affect the development of students' MI that, later, will influence their future success in their education (Winarti, Yuanita, & Nur, 2019).

Some studies have been conducted on the evaluation of English textbooks in terms of the representation of the MI theory. For instance, Kirkgöz (2010) investigated the frequency of representation of each type of intelligences in five ELT textbooks, which were locally published in Turkey. She identified naturalistic and existential intelligences as the least represented intelligences in the textbooks. In addition, Ibragimova (2011) evaluated the representation of the MI theory in the English textbooks of intermediate-level classes of Eastern Mediterranean University in Cyprus. She also identified the students' MI profiles. She concluded that the MI profile of students and textbooks were not compatible. Arikan, Soydan, and İşler (2014) explored the extent of reflection of MI theory in two English textbooks, namely *Texture of English 4* and *My English 5* that were used in state schools of Turkey. According to their findings, existential intelligence was not included in the given textbooks. In addition, they revealed that verbal intelligence was the most represented type of intelligence in these textbooks. Wattanborwornwong and Klavinitchai (2016) studied the similarities and differences of the representation of MI in locally-designed textbooks in English as a foreign language (EFL) and in Chinese as a foreign language (CFL) textbooks used in primary schools in Thailand. Their study revealed that the representation of spatial intelligence in both textbook series was the most prominent intelligence. In the same vein, musical and naturalistic intelligences were the least represented types. Likewise, Omer (2017) analyzed the content of *North Star* textbooks using Botelho's (2003) checklist in Kurdistan region, Iraq. He revealed that verbal intelligence was the dominant one.

Similarly, in the context of Iran, Razmjoo and Jozaghi (2010) investigated the representation of MI in *Top Notch* series.

In their analysis, they observed some patterns in the frequency and distribution of intelligences concerning the levels of textbooks. Estaji and Nafisi (2014) examined four EFL young learners' textbooks of *Up and Away in English* series in terms of MI representation. They realized that existential intelligence was absent in the given textbooks. Taaseh, Mohebbi, and Mirzaei (2014) scrutinized *Right Path to English* series to analyze the types of intelligences represented in these textbooks based on Botelho's (2003) checklist and explored Iranian students' preferred intelligences. They found that the intelligence profiles of students were not compatible with the represented intelligences in textbooks. Ebadi, Sabzevari, and Beigzadeh (2015) studied the representation of MI in *Touchstone* series and revealed that verbal and visual intelligences were the most frequent types, while musical, bodily, and naturalistic intelligences were the least frequent types that were represented in *Touchstone* series. They also compared students' books with workbooks and concluded that students' books reflected various types of intelligences in comparison with workbooks. The above-mentioned studies, unanimously, concluded that, in these textbooks, verbal-linguistic intelligence was the most prominent type of intelligences; however, the researchers did not pay attention to the balance of distribution of the representation of intelligences in textbooks.

As far as the balance of distribution of MI was concerned, only Jado (2015) investigated the level of balance of MI in Arabic language textbooks in analytical descriptive approaches. He concluded that all types of intelligences are required to be represented in these textbooks. He dealt with the quantitative as well as the qualitative representations of different intelligences in the Arabic textbooks. The quantitative representations were more highlighted and featured.

Textbooks play a central role in teaching and learning processes (Richards, 2001). The English textbooks that are currently used in Iranian junior high schools, *Prospect* series, are the main resources for teaching English to students at grades 7, 8 and 9 at schools. Due to the significance of English textbooks in the first official presentation of the English language to Iranian students and in language learning of Iranian junior high school students (IJHSS),

this study focuses on the *Prospect* series including *Prospect 1* for grade 7*, Prospect 2* for grade 8*,* and *Prospect 3* for grade 9, in order to analyze the representation of MI in them through Botelho's (2003) checklist. Furthermore, the research compares the MI profiles of the textbooks with the MI profiles of IJHSS to see the amount of their compatibility.

The steps to conduct the present study are three-fold: first, it quantitatively analyzes the *Prospect* series with regard to the amount and distribution of the representation of MI. Second, the MI profile of IJHSS, which reveals the frequency and dominance of different intelligences of them, is established. Third, it examines the extent to which the MI profiles of IJHSS are compatible with the MI profiles of the Iranian junior high school English textbooks (IJHSET). Thus, the study attempts to answer the following questions:

1. Is there any significant difference between MI representation in the student's book and work book of *Prospect* 1 and the MI profiles of IJHSS at grade 7?
2. Is there any significant difference between MI representation in the student's book and work book of *Prospect* 2 and the MI profiles of IJHSS at grade 8?
3. Is there any significant difference between MI representation in the student's book and work book of *Prospect* 3 and the MI profiles of IJHSS at grade 9?

In response to the above-mentioned research questions, the following null hypotheses were formulated.

1. There is no significant difference between MI representation in the student's book and work book of *Prospect* 1 and the MI profiles of IJHSS at grade 7.
2. There is no significant difference between MI representation in the student's book and work book of *Prospect* 2 and the MI profiles of IJHSS at grade 8.
3. There is no significant difference between MI representation in the student's book and work book of *Prospect* 3 and the MI profiles of IJHSS at grade 9.

3. Methodology
3.1 Participants

For establishing the MI profile of IJHSS, 300 Iranian male and female junior high school students who were randomly selected from Tehran state, Iran, participated in the study. They were in grades 7, 8, and 9 (each grade 100 participants) studying *Prospect 1, 2, and 3*, respectively, as their English course books. Furthermore, for analyzing *Prospect 1, 2, and 3*, 68 Iranian EFL male and female junior high school English teachers participated in analyzing textbooks in terms of the representation of MI using Botelho's (2003) checklist. Both male and female junior high school English language teachers and students was included in this study; so, gender was not taken into account. All of the teachers were B.A. holders of translation studies, teaching English as a foreign language, and/or English literature, with 10-15 years of experience in teaching English in Iranian junior high schools.

3.2. Instrumentation

The textbook series including *Prospect 1, 2, and 3* designed for grades 7, 8, and 9 in new junior high school educational curriculum were used for analysis from the perspective of the representation of the MI.

Botelho's (2003) checklist for textbook analysis and evaluation, which is based on the MI theory, was used to analyze the textbooks. It examines both the presence and the frequency of the representation of each of the intelligences in textbooks. Botelho (2003) presents an eight-part checklist consisting of the relevant information about eight intelligences and records of the activities, techniques, materials, and descriptions associated with each intelligence (Appendix). Taaseh, Mohebbi and Mirzaei (2014) evaluated Botelho's (2003) checklist and estimated Cronbach's Alpha reliability 0.81 for it. For this study, the researchers themselves also estimated Cronbach's Alpha reliability as 0.76 for the Botelho's checklist.

Furthermore, Multiple Intelligences Developmental Assessment Scale (MIDAS-Kids) (Shearer, 1996), which has been translated into Persian (P-MIDAS), was used for measuring the students' MI profiles at grades 7, 8, and 9. MIDAS-Kids is a 93-item self-report questionnaire for measuring MI that can be run to participants of 10-15 years old; grades 7, 8, and 9 are included in this age-range in Iran. It is a six-point Likert scale from never or very little to always that takes 20-30 minutes to be completed. Shearer (2012) investigated the reliability and validity of the original MIDAS and it has been proven to be valid and reliable. Saeidi, Ostvar, Shearer, and Jafarabadi (2012) translated MIDAS questionnaire into Persian and estimated the reliability of P-MIDAS, ranging from .82 to .90 and proved it as valid. For this research, the researchers themselves also estimated Cronbach's Alpha reliability as 0.78. Due to the copyright

rules, MIDAS cannot be included in the appendix.

3.3 Procedure

To begin with, the researchers trained 68 Iranian junior high school English teachers about the MI theory and the analysis of *Prospect* series using Botelho's (2003) checklist. In this training, the procedure for sorting the type of intelligences and counting the frequency and distribution of the representation of MI in all the units of these textbooks was practiced. Later, the teacher participants analyzed the content of *Prospect* series to measure the frequency and distribution of the representation of MI in all these textbooks. Then, the student participants completed MIDAS-Kids for establishing their MI profiles. The collected data were submitted to data analysis for comparing the compatibility of MI profiles of *Prospect* series with the participants' MI profiles.

3.4 Data Analysis

After collecting the data, descriptive statistics was used to analyze the data relating to the students' MI profiles at grades 7, 8, and 9 and the data of MI profiles of student's books and workbooks of *Prospect 1, 2*, and *3*. In addition, in order to find any significant difference between MI representations in student's books and workbooks of *Prospect* series and MI profiles of IJHSS, goodness-of-fit chi-square analyses were employed for analyzing and comparing the nominal data. Then, for calculating the strength of the relationship of the data, Cramer's V was utilized.

4. Results

The research questions sought to compare the MI profiles of IJHSET, namely, *Prospect 1, 2,* and *3,* including student's books and workbooks, with the MI profiles of IJHSS to see the amount of their compatibility. For this purpose, the descriptive statistics of the main scales of the IJHSS' MI profiles was calculated (Table 1).

Table 1: Descriptive Statistics of IJHSS' Main Scales

Grades	Intelligences	N	Minimum	Maximum	Mean
Grade 7	Interpersonal	100	41	93	68.40
	Linguistic	100	25	100	66.20
	Intrapersonal	100	34	95	65.30
	Logical	100	20	88	58.92
	Musical	100	19	95	57.42
	Spatial	100	25	82	51.48
	Kinesthetic	100	28	75	48.55
	Naturalistic	100	0	75	38.22
	Valid N (listwise)	100			
Grade 8	Interpersonal	100	18	93	63.56
	Linguistic	100	8	100	61.73
	Intrapersonal	100	34	95	61.66
	Logical	100	18	93	60.00
	Musical	100	19	95	55.29
	Spatial	100	20	89	51.58
	Kinesthetic	100	20	86	50.19
	Naturalistic	100	13	83	41.38
	Valid N (listwise)	100			
Grade 9	Interpersonal	100	48	93	69.06
	Linguistic	100	41	98	66.35
	Intrapersonal	100	43	87	62.66
	Spatial	100	14	93	60.95
	Logical	100	28	95	59.07
	Musical	100	38	89	54.83
	Kinesthetic	100	14	90	52.61
	Naturalistic	100	13	82	43.97
	Valid N (listwise)	100			

Based on Table 1, it can be observed that the interpersonal intelligence in each grade has the highest mean, followed closely by linguistic and intrapersonal intelligences. Naturalist intelligence has the lowest mean, which is noticeably lower than that of other intelligences in each grade. The following graphic representation (Figure 1) makes the result more easily noticeable.
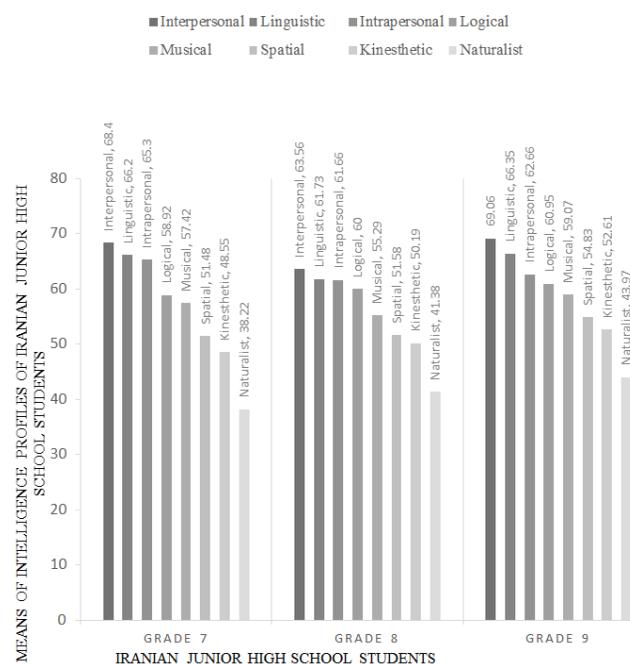

Figure 1: Intelligence profiles of IJHSS

Furthermore, the frequency of representation of each intelligence in student's books of *Prospect* series was also calculated. Table 2 displays the frequency.

Table 2: Frequency of representation of each intelligence in IJHSET (student's books)

Intelligences	Prospect 1 Student's book	Percentage	Prospect 2 Student's book	Percentage	Prospect 3 Student's book	Percentage
Interpersonal	31	4.49	36	5.77	28	2.88
Intrapersonal	140	20.31	84	13.48	169	17.40
Kinesthetic	19	2.75	33	5.29	18	1.85
Linguistic	219	31.78	190	30.49	343	35.32
Logical	12	1.74	31	4.97	55	5.66
Musical	5	.72	2	.32	19	1.96
Natural	1	.14	1	.16	0	0
Spatial	262	38.02	246	39.48	339	34.91
Total No. of intelligences	689	100	623	100	971	100

Table 2 demonstrates that in student's books of *Prospect 1* and *2*, spatial, linguistic, and intrapersonal intelligences and in *Prospect 3* student's book linguistic, spatial, and intrapersonal intelligences are frequently represented. In these textbooks, naturalistic intelligence is the least represented intelligence. The following graphic representation displays the results of the intelligence profiles of student's books of *Prospect* series (Figure 2).
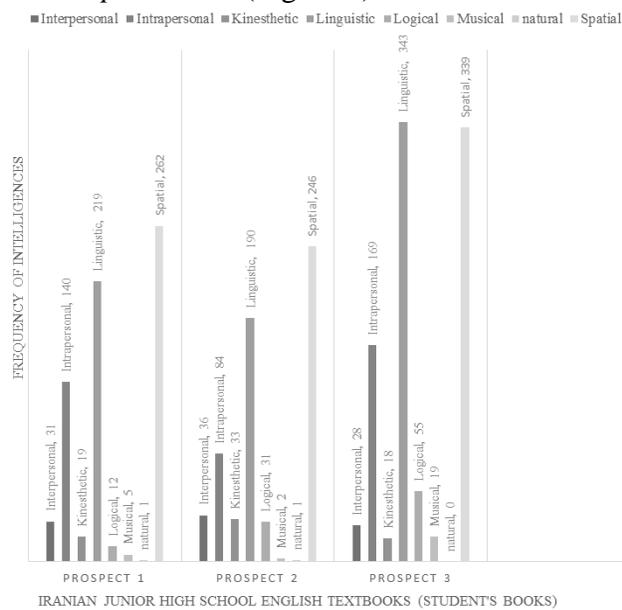

Figure 2: Frequency of representation of each intelligence in Prospect series (student's books)

The same statistics was done for workbooks of *Prospect* series as Table 2; the results are presented in Table 3.

Table 3: Frequency of representation of each intelligence in IJHSET (workbooks)

Intelligences	Prospect 1 workbook	Percentage	Prospect 2 workbook	Percentage	Prospect 3 workbook	Percentage
Interpersonal	1	.16	3	.63	0	0
Intrapersonal	140	23.64	143	30.10	113	19.58
Kinesthetic	26	4.39	0	0	0	0
Linguistic	182	30.74	167	35.15	191	33.10
Logical	25	4.22	64	13.47	102	17.67
Musical	0	0	0	0	0	0
Natural	6	1.01	0	0	7	1.21
Spatial	212	35.81	98	20.63	164	28.42
Total No. of intelligences	592	100	475	100	577	100

Table 3 reveals that while spatial, linguistic, and intrapersonal intelligences, respectively, are the most frequent intelligences in *Prospect 1* workbook, linguistic, intrapersonal, and spatial intelligences, respectively, are the most frequently represented in *Prospect 2* workbook. Moreover, linguistic, spatial and intrapersonal intelligences are regarded as

the most frequent intelligences in *Prospect 3* workbook. Figure 3 shows the graphic representation of the intelligence profiles of workbooks of *Prospect* series.
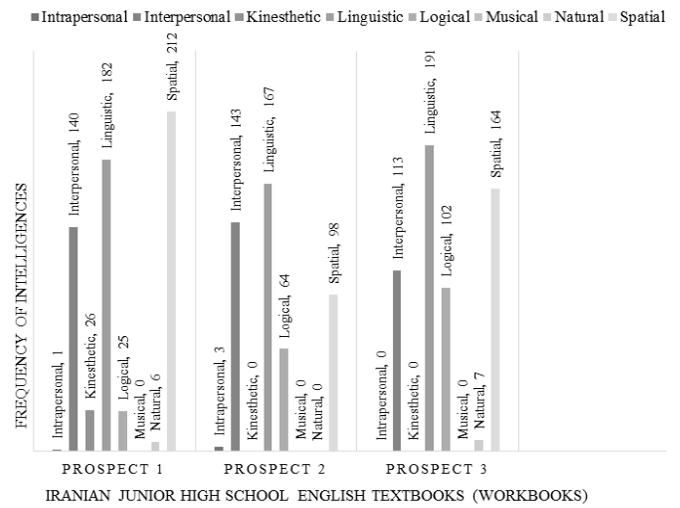

Figure 3: Frequency of representation of each intelligence in Prospect series (workbooks)

In order to find if there is any significant difference between MI representations in student's book and workbook of *Prospect 1* and MI profile of IJHSS at grades 7, goodness-of-fit chi-square analyses were run (Table 4).

Table 4: Chi-square statistics for the MI profiles of Grade 7 students and of Prospect 1 student's book and workbook

	Musical	Kinesthetic	Logical	Spatial	Linguistic	Interpersonal	Intrapersonal	Natural	
Chi-Square	68.165[a]	59.579[a]	42.853[a]	40.120[a]	37.289[a]	64.323[a]	40.000[a]	60.000[a]	Student's book
df	7	7	7	7	7	7	7	7	
Asymp. Sig.	.006	.002	.005	.103	.202	.004	.099	.005	
Chi-Square	58.165[b]	59.579[b]	72.853[b]	40.120[b]	37.289[b]	74.323[b]	40.000[b]	50.000[b]	Workbook
df	7	7	7	7	7	7	7	7	
Asymp. Sig.	.006	.002	.000	.103	.202	.000	.069	.001	

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 6.1.

b. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 5.1.

As it can be seen from Table 4, there are significant differences between the representations of musical, kinesthetic, logical, interpersonal, and natural intelligences in *Prospect 1* student's book and workbook and the MI profile of IJHSS at grade 7. As a result, the first null hypothesis is rejected. Thus, there is not any compatibility between most of the intelligences, namely musical, kinesthetic, logical, interpersonal, and naturalistic intelligences represented in *Prospect 1* student's book and workbook and the MI profile of grade 7 students.

To answer the second research question, the goodness-of-fit chi-square analyses were used to look for any significant difference between MI representations in student's book and workbook of *Prospect 2* and MI profiles of IJHSS at grade 8 (Table 5).

Table 5: Chi-square test for the MI profiles of Grade 8 students and of Prospect 2 student's book and workbook

	Musical	Kinesthetic	Logical	Spatial	Linguistic	Interpersonal	Intrapersonal	Natural	
Chi-Square	16.000a	9.444a	13.378a	8.200a	14.511a	15.126a	12.800a	15.133a	Student's book
df	7	7	7	7	7	7	7	7	
Asymp. Sig.	.002	.739	.119	.830	.952	.003	.687	.004	
Chi-Square	62.155b	55.714b	47.080b	48.500b	49.290b	62.520b	42.880b	64.116b	Workbook
df	7	7	7	7	7	7	7	7	
Asymp. Sig.	.005	.001	.070	.092	.121	.001	.082	.005	

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 6.5.

b. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 6.1.

According to Table 5, there are significant differences between the representations of musical, interpersonal, and naturalistic intelligences in *Prospect 2* student's book and that of the MI profile of grade 8 students. The same analysis on *Prospect 2* workbook demonstrates that a significant difference exists between grade 8 students' MI profile and the representation of MI in *Prospect 2* workbook with respect to musical, kinesthetic, interpersonal, and naturalistic intelligences. Based on the results of Table 5, the second null hypothesis is rejected. Therefore, there is no compatibility between *Prospect 2* student's book and grade 8 students' MI profile in terms of the representation of musical, interpersonal and naturalistic intelligences. In addition, the representations of musical, kinesthetic, interpersonal, and naturalistic intelligences in *Prospect 2* workbook are not compatible with the MI profile of grade 8 students.

Concerning the third research question, to investigate any significant difference between the representations of MI in *Prospect* 3 student's book and workbook and MI profile of IJHSS at grade 9, goodness-of-fit chi-square analyses were calculated (Table 6).

Table 6: Chi-square test for the MI profiles of Grade 9 students and of Prospect 3 student's book and workbook

	Musical	Kinesthetic	Logical	Spatial	Linguistic	Interpersonal	Intrapersonal	Natural	
Chi-Square	11.124a	39.536a	36.320a	27.080a	12.250a	96.800a	41.360a	51.680a	Student's book
df	7	7	7	7	7	7	7	7	
Asymp. Sig.	.982	.622	.235	.096	.233	.000	.269	.000	
Chi-Square	71.124b	69.536b	36.320b	47.080b	52.250b	96.800b	51.360b	59.680b	Workbook
df	7	7	7	7	7	7	7	7	
Asymp. Sig.	.002	.003	.235	.206	.123	.000	.100	.009	

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 6.7.

b. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 5.7.

Table 6 indicates that there is a significant difference between the representation of interpersonal and naturalistic intelligences in *Prospect 3* student's book and that of MI profile of grade 9 students. As it can be seen in Table 6, the representations of musical, kinesthetic, interpersonal, and naturalistic intelligences in *Prospect 3* workbook are significantly different from grade 9 students' MI profile. According to Table 6, the third null hypothesis is rejected. Thus, *Prospect 3* student's book and MI profile of grade 9 students are not compatible in terms of interpersonal and naturalistic intelligences. In addition, it can be inferred that grade 9 students' MI profile is not compatible with *Prospect 3* workbook in terms of the representations of musical, kinesthetic, interpersonal, and naturalistic intelligences. In order to calculate the strength of relationship of the findings, Cramer's V was used (Table 7).

Table 7: Strength of relationship of MI profiles of IJHSS and of Prospect series

	Symmetric Measures		Value	Approx. Sig.
Grade 7*Prospect 1 student's book	Nominal by Nominal	Cramer's V	.089	.022
	N of Valid Cases		100	
Grade 7* Prospect 1 workbook	Nominal by Nominal	Cramer's V	.083	.027
	N of Valid Cases		100	
Grade 8*Prospect 2 student's book	Nominal by Nominal	Cramer's V	.063	.043
	N of Valid Cases		100	
Grade 8*Prospect 2 workbook	Nominal by Nominal	Cramer's V	.071	.031
	N of Valid Cases		100	
Grade 9*Prospect 3 student's book	Nominal by Nominal	Cramer's V	.062	.041
	N of Valid Cases		100	
Grade 9* Prospect 3 workbook	Nominal by Nominal	Cramer's V	.070	.034
	N of Valid Cases		100	

a.   Not assuming the null hypothesis.

b.   Using the asymptotic standard error assuming the null hypothesis.

Table 7 shows that the values of Cramer's V of the differences between MI profiles of IJHSS at grades 7, 8, and 9 and MI representations in *Prospect* series student's books and workbooks are significant. To be precise, there are significant differences between the MI profile of grade 7 students and MI representation in *Prospect* 1 textbooks (for student's book ρ =.022<.05, Cramer's V=.089 and for workbook ρ =.027<.05, Cramer's V=.083). Similarly, there are significant differences between the grade 8 students' MI profile and MI representation in *Prospect* 2 textbooks (for student's book ρ =.043<.05, Cramer's V= .063 and for workbook ρ =.031<.05, Cramer's V= .071). In the same way, there are significant differences between the MI profile of grade 9 students and MI representation in *Prospect* 3 textbooks (for student's book ρ =.041<.05, Cramer's V=.062 and for workbook, ρ =.034<.05, Cramer's V=.070). Thus, Tables 4, 5, and 6 reveal significant differences in the sub-intelligences between MI

representation in *Prospect* series and the MI profiles of IJHSS.

4.1. Discussion

The present study aimed to investigate the MI representation in *Prospect* series, student's books and workbooks, the MI profiles of IJHSS at grades 7, 8, and 9, and the amount of their compatibility. Regarding the first research question, the results indicated that the MI representation in the student's book and workbook of *Prospect* 1 predominately catered for spatial, linguistic, and intrapersonal intelligences respectively, while grade 7 students, who study *Prospect* 1 textbooks, were highly intelligent in interpersonal, linguistic, and intrapersonal intelligences respectively. As a result, the representations of interpersonal, kinesthetic, logical, musical, and naturalistic intelligences in *Prospect 1* student's book and workbook were not compatible with the MI profiles of grade 7 students.

As far as the second research question is concerned, the findings were similar to that of the first question in the way that the representation of MI in *Prospect* 2 textbooks, including its student's book and workbook, chiefly contributed to spatial, linguistic, and intrapersonal intelligences respectively, while the MI profile of grade 8 students, who study *Prospect* 2 textbooks, indicated that they were highly intelligent in interpersonal, linguistic, and intrapersonal intelligences respectively. Thus, the representations of interpersonal, musical, and naturalistic intelligences in *Prospect 2* student's book and the representations of interpersonal, kinesthetic, musical, and naturalistic intelligences in *Prospect 2* workbook were not compatible with the MI profiles of grade 8 students.

Furthermore, concerning the third research question, the findings showed that interpersonal, linguistic, and intrapersonal intelligences were dominant in the MI profile of grade 9 students while linguistic, spatial, and intrapersonal intelligences were frequently represented in *Prospect* 3. Thus, the representations of interpersonal and naturalistic intelligences in *Prospect 3* student's book and the representations of interpersonal, kinesthetic, musical, and naturalistic intelligences in *Prospect* 3 workbook were not compatible with the MI profiles of grade 9 students.

The findings show that the MI profiles of *Prospect* series student's books and workbooks are not compatible with the MI profiles of IJHSS. On establishing the MI profile of EFL learners, the findings are in line with some studies and in contrary with some others. For example, Hosseini's (2011) conclusion that linguistic intelligence of Iranian female EFL learners is dominant does not support the findings of the present study in which interpersonal intelligence was the dominant intelligence type in IJHSS. It seems that although these two studies were carried out in the Iranian culture and context, the difference in findings refers to the difference in the age and gender of the participants because her study focused on Iranian female university EFL students and explored their MI profile, while the present study attended to Iranian male and female junior high school students. In this regard, gender difference seems to be influential in the estimates of dominant intelligences (Furmham, Clark, & Bailey, 1999) and females yield higher scores on verbal intelligence (Furnham, 1996), whereas the present study does not take gender difference into consideration.

The findings of Ibragimova (2011) about the MI profile of Turkish students indicated that intrapersonal, logical, and kinesthetic intelligences were the most dominant and interpersonal and linguistic intelligences were the least dominate intelligences in Turkish students' MI profile. In addition, she established the MI profile of an English textbook for Turkish students, namely *Success intermediate* students' and workbooks. She found that linguistic, logical, and naturalistic intelligences were the most frequent and musical and kinesthetic intelligences were the least represented ones. The age of the participants in her study was the same as that of the present study while their contexts, cultures, and educational systems are different. These might be the causes of differences in findings. In addition, the English textbooks including *Success intermediate* and *Prospect* series were two dissimilar textbooks for the comparison with the MI profiles of students. This may be another reason for the incongruity in the findings. Although her results are not in agreement with our findings, her conclusion that the MI profiles of students and of textbooks were not compatible supports our findings. Moreover, Taaseh, Mohebbi and Mirzaei (2014) analyzed the MI profile of *Right Path to English* series and Iranian students' preferred intelligences. Their conclusion that the intelligence profiles of students were not compatible with the represented intelligences in textbooks supports the results of the present study. It may be
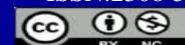
because of the same context, culture, educational system, and age of participants. In their study, they used preferred intelligences of IJHSS, whereas the present research was based on the actual yielded scores of IJHSS on the MI assessment test.

Emmiyati et al. (2014) presented MI profiles of Indonesian junior secondary school students. Their results revealed that the existential intelligence was the strongest intelligence in the MI profiles of Indonesian junior secondary school students. Since the present study used Botelho's (2003) checklist and Shearer's (1996) MIDAS-Kids questionnaire in which existential intelligence is not taken into account, existential intelligence was disregarded in this study.

The present study supports the findings of Wattanborwornwong and Klavinitchai (2016). They concluded that spatial intelligence was the most prominent and musical and naturalistic intelligences were the least represented ones in both textbook series. This may be attributable to the focus of these textbooks on attracting students to learn through the wide use of pictures (Gardner, 1999). Furthermore, musical intelligence may be less represented in textbooks owing to the religious issues or poor facilities of schools in playing music in the classroom (Wattanborwornwong & Klavinitchai, 2016).

It can also be mentioned that since the aim of a foreign language teaching and learning is to enhance the linguistic knowledge and communicative knowledge of language learners, the content of textbooks as "language learning [student's book] and use [workbook] are obviously closely linked to what MI theories label 'Linguistic Intelligence'"(Richards & Rogers, 2001, p. 117). In addition, MIDAS interprets linguistic knowledge as formal knowledge and communicative knowledge (Akbari & Hosseini, 2008). In this regard, formal knowledge of language is classified as the linguistic intelligence, and communicative knowledge is classified as interpersonal and intrapersonal intelligences (Akbari & Hosseini, 2008).

5. Conclusions

The present study aimed to answer the question whether there is any significant difference between MI representation in *Prospect* series and the MI profiles of IJHSS. The implicit aim of this study was to compare the compatibility of the MI profiles of *Prospect* series with that of IJHSS.

Based on the results, it was found that visual/spatial, verbal/linguistic, and intrapersonal intelligences were the most frequent types of intelligences represented in *Prospect* series, while interpersonal, linguistic, and intrapersonal intelligences were dominant intelligences in IJHSS' MI profiles. Thus, based on the findings of the study, it can be concluded that *Prospect* series did not cater for the interpersonal, kinesthetic, musical, and naturalistic intelligences of IJHSS.

The findings of the study may have some implications for the educational system, textbook designers, teachers, and students. Students' different MI profiles lead to their differences in choosing, learning, remembering, performing, and comprehending materials (Gardner, 1999). Textbooks, by providing various learning activities, which are appropriate for students' needs and intellectual engagements, can provide some opportunities to promote the students' potential capabilities, encourage them to employ their intelligences, and show their performance (Byrd & Schuemann, 2014; Currie, 2003; Gardner, 2011; Tomlinson, 2011).

By preparing the MI profile of Iranian junior high school English language textbooks and by comparison of MI profile of the given textbooks and students, possible strong points and weak points of these textbooks can be identified. Accordingly, these kinds of studies can probably reveal the neglected learners' needs, differences, and intellectual engagements in designing English textbooks for IJHSS. By comparing the degree of compatibility of MI profiles of students with the MI profiles of textbooks, more appropriate and compatible supplementary materials, tasks, and activities can be designed and employed to reinforce textbooks with regard to the MI representation and to make them more suitable for different students with various intelligence types. The results of the research may be constructive in enhancing the adequacy and efficiency of new editions or perhaps the new series of junior high school English textbooks. The findings of the study may have some implications for the educational system, textbook designers, teachers, and students.

References

Akbari, R., & Hosseini, K. (2008). Multiple intelligences and language learning

Cite this article as: Amini, S.M., Ahmadian, M., Yazdani, H. & Dowlatabadi, H.R. (2019). Multiple Intelligences (MI) Representation in *Prospect* Series and the MI Profile of Iranian Junior High School Students: A Compatibility Perspective. *International Journal of English Language & Translation Studies*. 7(2). 52-62.

Page | 60

strategies: Investigating possible relations. *System*, 36, 141-155.

Arikan, A., Soydan, E., & İşler, Ö. (2014). A Study of Two English Language Coursebooks in Turkey: Focus on Multiple Intelligences. *Başkent University Journal of Education*, *1*(1), 27-33.

Bahumaid, S. (2008). TEFL materials evaluation: A teacher's perspective. *Poznan Studies in Contemporary Linguistics*, *44*(4), 423-32.

Botelho, M. (2003). *Multiple intelligences theory in English language teaching and analysis of current textbooks, materials, and teachers' perceptions*. Unpublished Master's Thesis. Ohio University, Ohio.

Byrd, P., & Schuemann, C. (2014). English as a second/foreign language textbooks: How to choose them-how to use them. In M. Celce-Murcia, D. Brinton, & M. A. Snow (Eds.), *Teaching English as a second or foreign language* (4th ed., pp. 380-393). Boston, MA: National Geographic Learning.

Currie, K. L. (2003). Multiple intelligence theory and the ESL classroom: Preliminary considerations. *The Internet TESL Journal*, *4*(4), 263-270.

Ebadi, S., Sabzevari, S., & Beigzadeh, M. (2015). The Representation of Multiple Intelligence Types in Touchstone Series Course Books. *English for Specific Purposes World*, *1*(16), 1-23.

Emmiyati, N., Rasyid, M. A., Rahman, M. A., Arsyad, A., & Dirawan, G. D. (2014). Multiple Intelligences Profiles of Junior Secondary School Students in Indonesia. *International Education Studies*, *7*(11), 103-110.

Estaji, M., & Nafisi, M. (2014). Multiple intelligences and their representation in the EFL young learners' textbooks. *International Journal of Research Studies in Language Learning, 3(6),* 61-72.

Furnham, A. (1996). *Lay Theories*. Whurr, London.

Furnham, A., Clark, K., & Bailey, K. (1999). Sex differences in estimates of multiple intelligences. *European Journal of Personality*, *13*(4), 247-259.

Gardner, H. (1983). *Frames of mind*. New York: Basic Books.

Gardner, H. (1995). Reflections on multiple intelligences: Myths and messages. *Phi Delta Kappan*, *77*(3), 200-209.

Gardner, H. (1999). *Intelligence reframed: Multiple intelligences theory into the 21st century*. New York: Basic Books.

Gardner, H. (2006). The development and education of the mind: The selected works of Howard Gardner. London and New York: Routledge.

Gardner, H. (2011). *Frames of mind: The theory of Multiple Intelligences* (2nd ed.). New York: Basic books.

Gardner, H., & Hatch, T. (1989). Multiple Intelligences go to school: Implications of the theory of Multiple Intelligences. *Educational Researcher, 18*(8), 4-10.

Gholampour, F., Kasmani, M. B., & Talebi, S. H. (2013). An evaluation of the Iranian junior high school English textbooks, "English time books" and "Hip-hip hooray" books based on Multiple Intelligences theory. *Asian Journal of Social Sciences and Humanities, 2*(1), 244-252.

Hosseini, S. (2011). *A study of the relationship between Iranian EFL learners' multiple intelligences and their performance on writing*. Unpublished Master's Thesis, Arak University, Arak.

Ibragimova, N. (2011). *Multiple Intelligences Theory in Action in EFL Classes: A Case Study*. Unpublished Master's Thesis, Eastern Mediterranean University (EMU).

Jado, S. M. A. (2015). The level of Multiple Intelligences in Arabic language textbooks for grades from (1 - 4) in Jordan in light of Gardner's theory. *Creative Education*, 6, 1558-1572.

Kirkgöz, Y. (2010). Catering for multiple intelligences in locally-published ELT textbooks in Turkey. *Procedia Social and Behavioral Sciences*, 3, 127-130.

McCullagh, M. (2010). An initial evaluation of the effectiveness of a set of published materials for medical English. In B. Tomlinson & H. Masuhara (Eds.), *Research for materials development in learning: Evidence for best practice* (pp. 381-393). London: Continuum.

Nicholson-Nelson, K. (1998). *Developing students' multiple intelligences*. New York: Scholastic Professional Books.

OERP. (2015). *English for Schools: Prospect 1* (student's book and work book). Publishing Company of Iran Textbooks.

OERP. (2015). *English for Schools: Prospect 2* (student's book and work book). PCIT.

OERP. (2015). *English for Schools: Prospect 3* (student's book and work book). PCIT.

Omer, B. O. (2017). The representation of multiple intelligences in *North Star* coursebooks: A content analysis. *JUHD, 3*(3), 590-594.

Razmjoo, S. A., & Jozaghi, Z. (2010). The representation of multiple intelligences types in the Top-notch series: A textbook evaluation. *Journal of Pan-Pacific Association of Applied Linguistics, 14*(2), 59-84.

Richards, J. C. (2001). The role and design of instructional materials. In *Curriculum development in language teaching* (pp. 251-285). NY: Cambridge University Press.

Richards, J. C., & Rodgers, T. S. (2001). Approaches and methods in language

teaching (2nded.). UK: Cambridge University Press.

Saeidi, M., Ostvar, S., Shearer, B., & Jafarabadi, M. A. (2012). Content validity and reliability of multiple intelligences developmental assessment scales (MIDAS) translated into Persian. *The Journal of Applied Linguistics, 5*(11), 16-33.

Shearer, C. B. (1996). Multiple intelligences developmental assessment scales (MIDAS). United States of America: Author.

Shearer, C. B. (2012). An inter-rater reliability study of a self-assessment for the multiple intelligences. *International Journal of Psychological Studies*, *4*(3), 131-138.

Taaseh, Y., Mohebbi, A., & Mirzaei, F. (2014). Intelligence profile of Iranian locally designed and published ELT textbooks and students' multiple intelligences. *International Journal of Language and Linguistics, 2*(4), 24-31.

Tomlinson, B. (2011). Introduction: Principles and procedures of materials development. In B. Tomlinson (Ed.), *Material development in language teaching* (2nd ed., pp. 1-31). Cambridge: Cambridge University Press.

Wattanborwornwong, L., & Klavinitchai, N. (2016). The differences of multiple intelligence representation in English and Chinese textbooks: The case of EFL & CFL textbooks in Thailand. *Theory and Practice in Language Studies*, *6*(2), 302-309.

Winarti, A., Yuanita, L., & Nur, M. (2019). The effectiveness of multiple intelligences based teaching strategy in enhancing the multiple intelligences and science process skills of junior High School students. *Journal of Technology and Science Education*, *9*(2), 122-135.

Appendix: List of activities, techniques, materials and descriptions of each intelligence (Botelho, 2003, p. 144).

Verbal/linguistic
1. Note taking
2. Riddles
3. Worksheets
4. Listening to lectures
5. Word play games
6. Listening to talking books
7. Reading books
8. Discussions
9. Story telling
10. Journal keeping
11. Debates
12. Memorizing
13. Writing
The ability to use words effectively both orally and in writing: Remembering information, convincing others to help and talking about language.

Logical/mathematical
1. Science demonstrations and experiments
2. Logic puzzles and games
3. Story problems with numbers
4. Logical/sequential presentation of subject matter
5. Logical argumentation
6. Problem solving
The ability to use numbers effectively and reason well. Ability to predict, understand basic properties of numbers and principles of cause and effect, recognizing abstract patterns, creating codes.

Spatial/visual
1. Illustrations
2. Graphs
3. Tables
4. Using charts and grids
5. Videos, slides and movies
6. Using arts
7. Maps
8. Photos
9. Using graphic organizers
10. Imaginative story telling
11. Painting/picture/collage
12. Mind maps
13. Telescope/microscope
14. Visual awareness activities
15. Students' drawings

Bodily/kinesthetic
1. Hands-on activities
2. Field trips
3. Role plays
4. Creative movements
5. Mime
6. Body language
7. Classroom aerobics
8. Cooperative group rotation
9. Cooking and other "mess" activities
The ability to use the body to express ideas and feelings and to solve problems,
Skills: coordination, flexibility, speed and balance.

Musical
1. Singing
2. Songs
3. Playing recorded music
4. Playing live music
5. Jazz chants
6. Music appreciation
7. Student made instruments
8. Background music Sensitivity to rhythm, pitch and melody. Recognizing simple songs and being able to vary speed, tempo and rhythm in simple melodies.

Interpersonal
1. Pair work
2. Peer teaching
3. Board games
4. Group brainstorming
5. Project work
6. Work cooperatively
The ability to understand another person's moods, feeling, motivations and intentions.
Skills: responding effectively to other people, problem solving and resolving conflict.

Intrapersonal
1. Activities with a self-evaluation component
2. Interest centers
3. Options for homework.
4. Personal journal keeping
5. Checklist
6. Inventories
7. Individualized projects
8. Doing things by yourself
The ability to understand yourself, your strength, weaknesses, moods, desires and intentions.
Skills: understanding how someone is similar to or different from others, reminding oneself to do something, knowing how to handle one's feelings, knowing about oneself as a language learner.

Naturalistic
The ability to recognize and classify plants, minerals and animals including rocks, glass and all variety of flora and fauna, classifying and categorizing activities.

Cite this article as: Amini, S.M., Ahmadian, M., Yazdani, H. & Dowlatabadi, H.R. (2019). Multiple Intelligences (MI) Representation in *Prospect* Series and the MI Profile of Iranian Junior High School Students: A Compatibility Perspective. *International Journal of English Language & Translation Studies*. *7(2). 52-62.*

Page | 62