

## **Representation of Multiple Intelligences in English for the Students of Medicine**

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### **Abstract**

Considering the importance of textbooks in general and ESP textbooks in particular and the significance attached to the role of multiple intelligences in enhancing university students' reading performance, this study was carried out to investigate the extent to which Multiple Intelligences (MI) are reflected in English for the Students of Medicine textbooks published by SAMT publication. To this end, a local multiple intelligences checklist was used to examine the selected textbooks in relation to different intelligences as reflected through various activities and tasks. Both textbooks were evaluated and frequencies and percentages of occurrence of each type of intelligences were calculated. The results indicated that English for the students of Medicine by Atai was addressing verbal intelligence followed by the logical, interpersonal, intrapersonal, visual, and bodily/ kinesthetic intelligence types while no activities in the textbook reflected musical and natural intelligences. It also showed that verbal intelligence was represented in most activities followed by logical intelligence in English for the Students of Medicine by Tahririan while other intelligence types were not reflected in any of the activities. The ESP textbook by Atai represented most of the intelligence types. Therefore, this textbook is recommended as an alternative to the one by Tahririan which is currently taught in many universities in Iran.

**Keywords:** English for Students of Medicine; Textbook Evaluation; ESP, Multiple Intelligences

### **Introduction**

As there are many different and diverse ESP textbooks on the market, there is a necessity for the evaluation of textbooks in order to be able to recognize the advantages of one over the others, which in turn will lead to the adoption of the textbook. One cannot deny the fact that textbooks in general and ESP text books in particular as the most essential resources used by the teachers in language classrooms play a significant role in conveying curriculum

objectives to students. Hutchinson and Torres (11) refer to text book as a universal element in the language teaching/ learning process and claim that no teaching-learning context is complete until it has its relevant course book. Accordingly, textbook evaluation as a procedure involving measuring the value of the instructional materials from the point of view of the learners/the teachers or users is considered as an essential part of curriculum development.

Considering the paramount importance of textbook evaluation, measures must be taken to establish and apply a wide variety of relevant and contextually appropriate criteria for the evaluation of the textbooks used in the language classrooms. According to Cunningsworth, (cited in 17) we should also ensure "that careful selection is made and that the materials selected closely reflect the needs of the learners and the aims, methods, and values of the teaching program" (p.7). As Chapman, (4) rightly argues the multi-aged, heterogeneous, individual and diverse classrooms atmosphere with diversely intelligent students demand teachers to adapt their teaching and select the right materials to meet the plethora of students' needs. Therefore, one such criterion that seems to be appropriate for evaluating textbooks is based on Multiple Intelligences (MI) theory developed by Gardner (7). According to the theory of Multiple Intelligences introduced by Gardner, human intelligence consists of different categories namely verbal/ linguistic, logical/ mathematical, visual/ spatial, musical, bodily- kinaesthetic, interpersonal, intrapersonal, and naturalistic, each of which is possessed by individuals to some extent.

MI Theory can be helpful in broadening the role of education in incorporating subjects that address not only the several intelligences and ways of thinking but also teaching methods that tackle individual learner differences and assessments that go beyond standard, short-answer language-and-logic instruments (5). It has been claimed by educators and teachers that the application of MI Theory in education and classrooms will result in learners' increasing level of interest, motivation, and success. Additionally, application of MI theory in curriculum development in general and syllabus design in particular has been found to result in improvement and development in teaching practices and assessment techniques. (6).

Therefore, the present study aimed at investigating two ESP textbooks for the students of medicine written by Tahririan *et al* (19) and Atai *et al* (3) in light of Multiple Intelligences Theory and there was an attempt to answer the following questions:

1. What type(s) of intelligence(s) is/are included in ESP textbook of English for the Students of Medicine by Tahririan *et al* (19)?

2- What types of intelligence(s) is/are included in ESP textbook of English for the Students of medicine by Atai *et al* (3)?

3- What are the differences regarding the intelligence type presented in the two ESP textbooks?

### Methods

MI checklist developed by Razmjoo and Jozaghi (15) was used in the present study to carefully analyze two locally designed ESP textbooks for students of medicine in terms of multiple intelligence types.

For the purpose of this study, the researchers independently studied the exercises, counted the frequency, and the number and percentage of exercises which contained multiple intelligences. The data, then, were placed in a chart. Finally the number of each intelligence type in each book was counted. Description of each intelligence type in the checklist was used to analyze each activity and the extent it reflected the MI Theory. Inter-rater reliability of 0.92 was achieved. Then, the researchers came to an agreement for the remaining percentage through discussion and consultation.

### Results

Table 1 illustrates the percentage of occurrence of each intelligence type in English for the Students of Medicine by Tahririan *et al* (19).

Table 1- Frequency and Percentage of Intelligence Types in English for the Students of Medicine (19)

Multiple Intelligences	Frequency/ Total Number of Activities	Percentage
<b>Verbal/ Linguistic</b>	225/325	69.5%
<b>Logical/ Mathematical</b>	150/325	46.5%
<b>Visual/ Spatial</b>	0/325	0%
<b>Bodily- Kinaesthetic</b>	0/325	0%
<b>Musical</b>	0/325	0%
<b>Intrapersonal</b>	0/325	0%
<b>Interpersonal</b>	0/325	0%
<b>Naturalistic</b>	0/325	0%

From 325 activities 225 (69.5%) presented verbal/ linguistic intelligence followed by 60 (46.5 %) logical/ mathematical intelligence types. Other types of intelligences were not present in this text book.

Table 2 shows the percentage of occurrence of each intelligence type in English for the Students of Medicine by Atai *et al* (3).

Table 2- Frequency and Percentage of Intelligence Types in Medicine (3)

Multiple Intelligences	Frequency/ Total Number of Activities	Percentage
<b>Verbal/ Linguistic</b>	168/240	70 %
<b>Logical/ Mathematics</b>	108/240	45 %
<b>Visual/ Spatial</b>	13/240	5.5%
<b>Bodily- Kinaesthetic</b>	12/240	5 %
<b>Musical</b>	0/240	0%
<b>Intrapersonal</b>	14/240	5.9 %
<b>Interpersonal</b>	14/240	5.9 %
<b>Naturalistic</b>	0/240	0%

From among 240 activities 168 (70%) activities presented verbal/ linguistics intelligence. After verbal/ linguistics intelligence with the highest frequency, the other types of intelligences reflected in the activities were: logical/ mathematical 108 (45 %) interpersonal 14 (5.9%) and intrapersonal 14(5.9%), visual/ spatial intelligence 13 (5.5%), bodily / kinaesthetic 12 (5 %), musical 0 (0%), and naturalistic 0 (0 %).

Figure 1 illustrates the difference between the two analyzed textbooks in terms of representing the multiple intelligences.

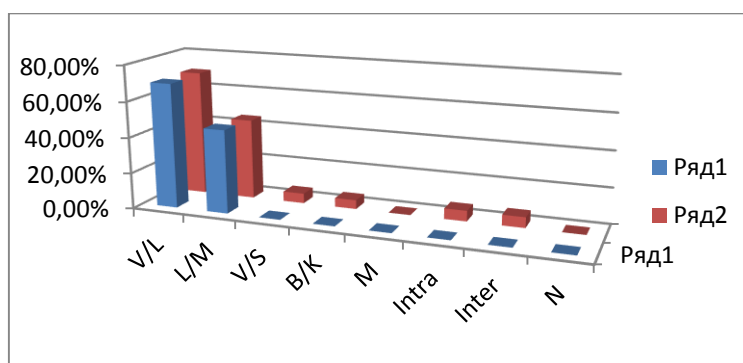


Figure 1- Percentages of Intelligence Types in the two ESP Textbooks

## Discussion

The findings regarding representation of verbal intelligence in the analysed textbooks is in line with the findings of most of the studies in the area of ELT / ESP which indicated that in most of language – related textbooks, verbal/linguistics intelligence was the dominant intelligence type (1, 4, 6, 8, 13, 15, 16, 17, 18) meaning that verbal intelligence has the highest frequency of occurrence. A reasonable justification for this finding is the fact that language textbook should encompass activities which focus on the linguistic intelligence type to a great extent. In other words, language learners are reasonably required to do a multitude of activities related to macro- skills, that is to say, tasks on reading, writing, listening and speaking.

None of the activities in Tahririan *et al's* (19) textbook addressed visual/ spatial, musical, bodily/kinaesthetic, interpersonal, intrapersonal, and naturalistic intelligences. This finding is very close to that of ESP textbook evaluations conducted by Rezvani and Amiri (17), on one hand, and Abbasian and Khajavi (1), on the other hand, as they found these intelligence types reflected in the activities to a very limited extent with frequency percentages ranging from 0.2 to 1.6%.

It was shown that English for the Students of Medicine by Atai *et al* (3) is more representative of various intelligence types and thus catering for diversity in learners' intelligence profile while current ESP textbook for the Students of Medicine by Tahririan *et al* (19) falls short of catering for intelligence diversity of the heterogeneous population of learners.

In fact, when the potential of the textbooks are evaluated from the perspective of MI, their advantages and pitfalls are identified. As Littlejohn (12) states the final step in evaluating a textbook is taking the appropriate action which might include adopting the materials, rejecting, adapting, supplementing, or making the materials a critical object. Hence, the SAMT ESP writers in general and the authors in the field of medicine need to decide on the appropriateness of the analyzed textbooks for their particular learners in terms of diversity in the intelligence types and take the necessary actions in this regard.

## Conclusion

The results suggested that in both textbooks activities revolved around verbal /linguistic followed by logical/ mathematical intelligence. The role of other type of intelligences was almost neglected in the textbook by Tahririan *et al* (19) whereas the ESP textbook by Atai *et al* (3) represented most of the intelligence types. The general conclusion from the current

study is that textbook writers should find ways to challenge all of the intelligence types to meet the needs of the learners. Thus, it is highly recommended that material writers and curriculum developers develop a curriculum/ textbook that caters for the underdeveloped intelligences and strengthens the developed ones and uses them as supplementary material or the basis for developing new textbooks.

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