MULTIPLE INTELLIGENCES IN PRACTICE: HARMONIZING TEACHING MATERIALS AND STUDENTS' INDIVIDUAL POTENTIALS

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Abstract: *The paper deals with multiple intelligences in adjusting teaching materials and students' individual potentials. The research study was designed as a quantitative study which involved applying descriptive methodology to both a sample of 100 students of engineering management and their coursebook. The intelligence profile of the coursebook, Market Leader (Intermediate) was determined by the Checklist of Activities for Each Intelligence (Safranj & Zivlak, 2018), which is categorized into seven modalities of intelligences. Then, the Multiple Intelligence Test (Chislett & Chapman, 2006) based on Gardner's Multiple Intelligences (MI) model was used to identify students' intelligence profiles. The results of the study revealed a ratio between the students and coursebook's MI profiles. Since the coursebook, as one of the main components of English foreign language curriculum, should meet the specific needs of learners in a given situation, the results obtained may help in the future design or adaptation of materials to better cater to students' multiple intelligences and improve the learning and teaching processes. According to the students' intelligence profiles, certain teaching activities and strategies could be applied to ensure that the balance of intelligences in students' language learning activities closely reflects their learning preferences and teaching materials become more accessible.*

Key words: *MI theory; English for engineering students; teaching materials; teaching strategies*

1. Introduction

Significant changes were initiated in the traditional view of intelligence by the founder of the Multiple Intelligences (MI) theory, Howard Gardner, in 1983. In Gardner's opinion, the traditional concept of intelligence has been defined and limited in logic and language. He claimed that his theory pluralized it. Unlike the conventional model, the theory of intelligence was placed into its social context by stating it as the ability to

solve problems, or create the products that are valuable within one or more cultural settings. Thus, the new view of intelligence was balanced and culture-free. First, Gardner (1983) distinguished seven types of intelligence: linguistic, logical/mathematical, musical, spatial, bodily/kinaesthetic, interpersonal, and intrapersonal. He later added naturalistic and existential intelligences to this list (Gardner 2006). His preliminary definition for existential intelligence was that it referred to individuals who exhibit the proclivity to pose and ponder questions about life, death, and ultimate realities. However, he has never fully confirmed, endorsed, or described this intelligence.

All types of intelligence are independent of others to different degrees. Additionally, all people possess all types of intelligence in varying degrees, while each individual has a unique intelligence profile depending on the values existing in a particular society, available opportunities to be gained in the culture, and personal decisions influenced by individuals, their families, and the whole society. According to Gardner (2006), the seven intelligences can be defined as follows:

Verbal/Linguistic Intelligence consists of the ability to manipulate words and use language to express and understand complex meanings. People with highly developed linguistic intelligence enjoy reading, writing, and speaking as well as poetry and word games.

Logical/Mathematical Intelligence comprises mathematical and scientific abilities. Individuals who excel in this intelligence use numbers successfully and reason well.

Visual/Spatial Intelligence involves the ability of understanding visual world easily. Individuals who are good in this intelligence can smoothly correspond to spatial information graphically and have perfectly developed mental images.

Bodily/Kinaesthetic Intelligence is the ability to control one's body movements, such as: coordination, flexibility, speed, and balance to use the body to express ideas and feelings and solve problems. Bodily-kinaesthetic individuals learn by doing.

Musical Intelligence is the capacity to recognize musical composition or performance as well as rhythm, pitch, and melody. Distinctive abilities indicating musical intelligence include the alteration in speed, tempo, and rhythm in simple melodies.

Interpersonal Intelligence is the ability to detect and respond appropriately to another person's feelings, motivations, and desires.

Intrapersonal Intelligence is the ability to be self-aware, recognizing one's similarities and differences from others, and in harmony with inner feelings and values.

Understanding basic definitions of each intelligence is as important as understanding how the intelligences work with one another. Since different paths to learning always act in consort, all the intelligences in operation should be regarded together. They should be used concurrently to function efficiently, and it is common for several intelligences to be used simultaneously during a learning process. Therefore, all types of intelligence can be classified into three instructional domains (McKenzie, 2002) that empower teachers to target instruction by specific clusters of intelligences:

- The Analytic Domain is targeting application of information and its processing. It comprises *logical, musical and naturalistic intelligences* which are heuristic processes by their nature.
- The Interactive Domain is centering on interaction with both environment and other people. It comprises *linguistic, kinesthetic and interpersonal intelligences* which are social processes by their nature. They generally promote and foster interaction to achieve understanding.
- The Introspective Domain is promoting the affective components of learning. It comprises *visual/spatial, intrapersonal and existential* intelligences which are by nature introspective because they require looking inward by the learner, emotional connection to their own experiences and beliefs in order to make sense of new learning
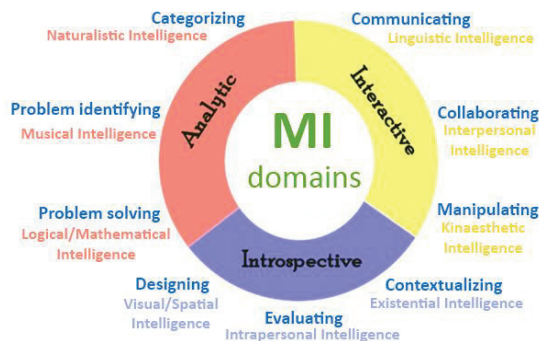

Figure 1. MI domains addressing the learning path

The Wheel of MI Domains serves as an organizer for understanding the fluid relationship of the intelligences. These three domains are meant to align the intelligences with familiar learner attributes recognized in the classroom. The MI framework offers a practical, empirical model for addressing all the paths to learning, regardless of the skills, content or desired end results. The well-defined track lines to learning are:

Logical: problem solving through reasoning.
Musical: identifying and extending patterns.
Naturalistic: classifying and categorizing data.

Linguistic: expression through the spoken and written word.
Interpersonal: interacting with others.
Bodily/Kinaesthetic: interacting with one's environment.

Visual/Spatial: having the ability to see, envision and imagine.
Intrapersonal: affective learning, values and attitudes.
Existential: using contexts and connections to prior understanding.

While considering three domains of MI one should bear in mind the fact that initially Gardner described seven aspects of human intelligence, but in 1994 he added two more types of intelligences: naturalistic and existential. Naturalistic intelligence was entirely explained and formally added to the primary inventory of seven intelligences in his 1999 book *Intelligence Reframed.* According to Gardner, individuals showing naturalistic intelligence are strongly conscious of the environment and changes in their settings, even when these alterations are minor. Thus, their advanced sensory perception results in a state of raised consciousness. Individuals who exceed in naturalistic intelligence are often engaged in biology, agriculture, botany, horticulture, ecology, zoology, ornithology, oceanography, archaeology, volcanology, geology, astronomy, meteorology, or paleontology.

Finally, the ninth, existential intelligence, is the ability to be responsive to and to contemplate fundamental and challenging questions about human existence. Gardner alluded to the existence of this intelligence in several of his works. He stated that existential intelligence might be recognized when an individual addresses and deals with crucial questions about existence, or examines and discusses the intricacies of existence, but he never fully described, approved, or confirmed this intelligence.

Due to this avoidance on Gardner's part to positively commit to existential intelligence as well as the fact that engineering students do not have much in common with professions that deal with these two intelligences, nor does the coursebook analyzed in this study, they were not included when defining MI profiles.

1.1. *Application of Multiple Intelligences in Teaching English as a Foreign Language*

MI theory has significant implications for teaching English as a second language. Its application has been regarded as beneficial for both learners

and teachers as well as for curriculum design, teaching materials, instructional strategies, and coursebook design. Thus, Akbari and Hossein (2008) investigated possible relations between multiple inteligences and language learning strategies. According to the findings of another study (Isisag, 2008) MI theory provides insight into students' individual differences for teachers of English as a foreign language, which allows teaching practices to be properly organized and performed. Moreover, instruction directed by MI theory can create a learner-centred setting in which students can demonstrate their strong points and potential (Isisag, 2008). He also emphasizes the need to identify and categorize activities in classes and defines four phases of how an MI-based lesson can be reinforced: stimulate intelligence, develop and support it, organize lessons according to different intelligence types, and integrate intelligences into solving problems. As Larsen (2002) noted, MI theory offers multiple ways to present valuable material and take into account students' differences in order to take full advantage of learning and understanding in language classes. The results obtained by Erozan and Shibliyev (2006) show that MI theory can contribute specifically to the effectiveness of teaching and learning in ELT courses and in general to designing tasks and activities that promote individualized learning situations. Haley (2001) aimed to analyze applications of MI theory to create and update teaching practices and instructional strategies. Bakić-Mirić (2010) investigated the outcomes of applying MI theory to English language instruction and found that the implementation of MI theory in English language teaching at the University of Nis Medical School facilitated teachers to better recognize and value students' abilities. The results also indicated that students showed higher interest and participation in the learning process. Furthermore, Sarıcaoğlu and Arıkan (2009) investigated three areas: the relationship between students' gender and intelligence types; the relationship between particular intelligence types and students' success in grammar, listening and writing in English as a foreign language; and parental education and students' intelligence types. They found positive and negative relationships among the variables.

1.2. *Application of Multiple Intelligences in Evaluating Teaching Materials*

As indicated by the review of literature, there are several research studies regarding the assessment of teaching materials in terms of MI theory. Palmberg (2001) analyzed a coursebook in order to identify the relative distribution of exercises catering to different intelligence types and found that the predominant intelligences were verbal/linguistic and intrapersonal. He suggested that language teachers assess the intelligence profile of the

coursebook they use in their teaching practice to cater to the intelligence profiles of a special group of students. Botelho (2003) focused on applying MI theory to assessing a coursebook and teaching materials in a Brazilian ELT context. Her study dealt with analyzing six current English coursebooks to find out if the coursebook activities catered to learners' intelligence types. The study aimed to identify English language teachers' opinions about MI theory and its application in their classes, and it found that only four intelligence types (linguistic, spatial, intrapersonal, and interpersonal) were mainly addressed in the coursebook activities. Furthermore, the results indicated that teachers were in need of better guidance and insight into applying MI theory in their classes.

Kırkgöz, Y. (2010) examined five English coursebooks in relationship to different intelligences in terms of different activities and tasks in order to discover the extent to which English language coursebooks produced in Turkey cater to different intelligence types. The results determined the intelligence profiles of each coursebook, and the findings suggest that they predominantly cater to verbal/linguistic and visual/spatial intelligence. Although naturalistic intelligence was involved only in coursebooks for grades 4 and 5, no activities were found that catered to existentialist learners in any of the coursebooks. However, a fair percentage of distribution for the remaining intelligence types were identified. Ibragimova (2011) focused on the application of MI theory in language classes by evaluating textbooks and classroom activities. The results obtained revealed discrepancies between the students' and textbooks' MI profiles. Classroom observations also showed that classroom activities misaligned with the students' MI profiles. The analysis of the textbooks' MI profiles found a wide range of distribution of eight intelligences in the textbook activities, which means that there was no balanced distribution in the textbook activities in terms of the intelligence types being investigated. Although teachers reported that MI theory was important and positively affected their teaching and their students' learning, the classroom observations showed that eight intelligences were not catered for in balance with their classes. Ebadi and Ashtarian (2014) examined the extent to which MI were reflected in the Oxford University Press ESP textbook *Nursing*. An MI checklist was used to examine the textbook in relationship to different intelligences as reflected through various activities and tasks. The textbook was evaluated and frequencies and percentages of occurrence of each type of intelligences were calculated. Taase et.al. (2014) investigated EFL students and their textbooks using MI theory to identify the types of intelligence incorporated in ELT textbooks and whether or not students prefer these types of intelligences. While students' English language proficiency levels did not show any significant effect on their multiple intelligence inclinations, the

level of proficiency in English textbooks proficiency seemed to have a significant effect on the frequency and application of types of intelligences within these textbooks. Al Seyabi and A'Zaabi (2016) focused on identifying the MI profiles of students in Oman as well as on analyzing the MI profiles of English textbooks to determine the extent to which they aligned. The results pointed to a misalignment between the students' intelligence profiles in comparison to the textbooks' dominant intelligences. The study also urged that future revisions of the EFL curriculum be done through the lens of MI theory in order to improve the quality of students' learning experiences. Wattanborwornwong and Klavinitchai (2016) analyzed different types of foreign language textbooks in light of MI theory by investigating locally-designed English and Chinese textbooks in Thailand and analyzed the distribution of multiple intelligence shown in the activity parts of textbooks. In the study of Safranj and Zivlak (2018) MI domains of students and their coursebook were analyzed to understand how the intelligences work with one another to facilitate teachers to plan lessons and curriculum.

Overall, there has been an increasing interest in the application of MI theory in language classes, so there seems to be a need for more research specifically in the area of materials evaluation in language classes, since the MI profiles of coursebooks vary in relation to the subject matter and age of the students for whom they are intended. Therefore, this paper deals with investigating the application of MI theory in Business English classes for engineers at the Faculty of Technical Sciences, University of Novi Sad by assessing the students' coursebook *Market Leader (Intermediate)* in terms of MI theory. The MI profiles of students and their Business English coursebook were identified and compared to evaluate to what extent they relate to one another. The study aims to answer the following research questions:

1. What are the students' intellectual profiles?
2. What is the intellectual profile of the *Market Leader (Intermediate)* coursebook?
3. To what extent does the intellectual profile of the coursebook relate to the intellectual profiles of engineering management students?

The study suggests a framework for evaluating teaching materials and tasks regarding MI theory. The findings should provide a better understanding of the application of MI theory in the field of teaching materials assessment. In addition, they can show how MI theory is applied in language classes at the Faculty of Technical Sciences, University of Novi Sad, and thus, raise awareness among foreign language teachers regarding the application of MI theory in bringing improvement in English language teaching activity.

2. Method

2.1. Sample
The sample included 100 students studying at the Department of Engineering Management, at the Faculty of Technical Sciences, University of Novi Sad. There were 63 (63%) male students, and 37 (37%) female students. Male students were overrepresented due to the structure of students at technical faculties. They were all in the second year of their studies with an average age of 19.

2.2. Instruments

Two instruments were used in the study: (1) *Student MI survey*, to determine the respondents' MI profiles, and (2) *Checklist of Activities for Each Intelligence* to determine the MI profile of coursebook activities.

1) *Multiple Intelligences Test* (Chislett and Chapman, 2006) based on Howard Gardner's MI Model was downloaded in order to identify students' MI profiles. This instrument has not been scientifically validated or normed. It is a simple directly reflective assessment tool and the results are produced directly from the inputs, i.e. the scored answers to the statement questions. Since there are no complex computations, it is less prone to distortion or confusion than a more complicated testing methodology. The instrument in its various versions has been downloaded and used tens of thousands of times by different users all around the world since 2006, and to the knowledge of its authors it has not generated any complaint or criticism about its reliability and suitability for purpose. It was first adapted to suit Serbian culture and then translated into Serbian by the author of this study and accompanied with an introduction and a personal section. In the introductory part of the survey the participants were given some information about the purpose of the study, and their rights as participants. The first section included demographic data (e.g., students' gender and age), and the second section consisted of seventy MI statements for surveying the seven intelligences. A Likert scale ranging from 1 to 4 (mostly disagree, slightly disagree, slightly agree, and mostly agree) was applied to score students' preferences. A panel of three experts validated the survey. They were English language teachers with over 20 years' experience teaching in secondary and grammar schools who voluntarily contributed to the study.

2) The activities in the coursebook *Market Leader (Intermediate)* were categorized into seven modalities of intelligences by using the *Checklist of Activities for Each Intelligence* (Šafranj & Zivlak, 2018) which was created to analyze the activities in the coursebook and to determine which intelligence type(s) each activity addresses.

Market Leader (Intermediate) is a coursebook of Business English for business people and students. It was developed in association with the *Financial Times*, one of the leading sources of business information in the world. The third edition of the coursebook published in 2010 was analyzed. It consists of 12 units based on topics of great interest to everyone involved in international business. The coursebook comprises a range of authentic resource material, reflecting the latest trends in the business world, and thus, it facilitates and improves students' ability to communicate in English in a wide range of business situations. The coursebook teaching materials enables development of students' communication skills which they need to succeed in business and enlarge their knowledge of the business world. Thus, they will become more fluent and confident in using the language they need in their future career of engineering managers.

2.3. Procedure

The participants filled in the paper-and-pencil MI Test, which was distributed during an English language class by the author of this paper at the beginning of the 2018 summer semester, and the scores obtained were calculated.

The MI profile of the coursebook was calculated through the *Checklist of Activities for Each Intelligence.* The frequencies of intelligence types were counted, and the percentage of each intelligence type was calculated. A total amount of 886 activities was described in terms of the intelligences they cater for. A panel of three judges validated the coursebook analysis. This was done by providing them with a sample coursebook analysis and the *Checklist of Activities for Each Intelligence.* Inter rater reliability was employed to ensure the reliability and consistency of categorizing the coursebook activities into the seven MI types. Each expert validated every coursebook activity (886 activities) individually. Then they went through the activities once again and decided among themselves the MI type, since a number of activities cater for two or more intelligences depending on the context. They reached an agreement for each teaching activity.

3. Results

Descriptive statistics for students' scores achieved on the self-administered Multiple Intelligence Test are shown in table 1. Values of Skewness and Kurtosis are in the suggested range of ±1.5 (Tabachnick & Fidell, 2013), which indicates that all of the variables are normaly distributed.

Table 1

Descriptive statistics for students' scores from MI Test

Intelligence	N	Min	Max	M	SD	Sk	Ku
Verbal/Linguistic Intelligence	100	16	44	26.89	5.212	.292	.442
Logical/Mathematical Intelligence.	100	13	40	29.66	4.928	-.544	.413
Musical Intelligence	100	12	44	29.88	4.939	-.314	1.205
Body/Kinaesthetic Intelligence	100	15	43	28.03	5.825	-.211	-.323
Visual/Spatial Intelligence	100	9	42	28.20	5.831	-.291	.477
Interpersonal Intelligence	100	15	43	30.74	4.769	-.450	1.238
Intrapersonal Intelligence	100	16	41	28.93	4.873	-.080	-.194
The Analytical domain	100	41.00	77.00	59.5400	7.66656	-.047	.066
The Interactive domain	100	58.00	112.00	85.6600	10.63368	-.179	.023
The Introspective domain	100	32.00	83.00	57.1300	9.41915	-.223	.148

Note: N – Sample size. Min – Minimum. Max – Maximum. M – Mean. SD – Standard deviation. Sk – Skewness. Ku – Kurtosis.

Before comparing the MI profiles of students and the MI profile of the English coursebook, each profile was analyzed separately. For the student profiles, an average score for each factor of intelligence was used,

and then these seven single scores were divided by the sum of all average scores. In order to calculate percentage, the result obtained was multiplied by 100. This process provided information about the ratio of intelligences in this particular sample. These results are presented in figure 2.
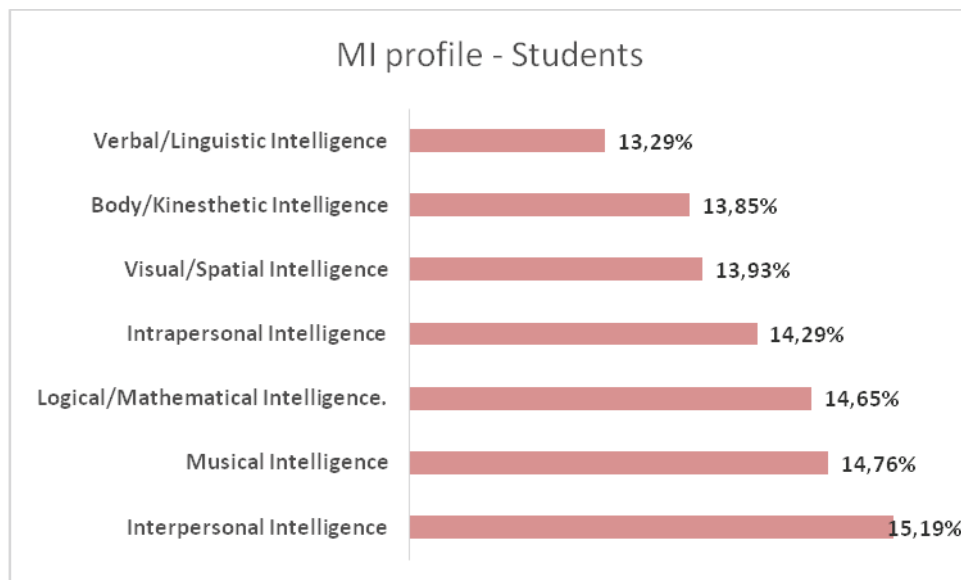

Figure 2. An averaged Multiple Intelligence profile of students ($N = 100$) with intelligence factors given in rank order

As depicted in the figure 2, the intelligence aspects in the student sample are ranked (from lowest percentage) in the following order: 1 – Verbal/Linguistic Intelligence, 2 – Body/Kinaesthetic Intelligence, 3 – Visual/Spatial Intelligence, 4 – Intrapersonal Intelligence, 5 – Logical/Mathematical Intelligence, 6 – Musical Intelligence, and 7 – Interpersonal Intelligence. Taking into account percentages, it could be suggested that all of the seven intelligences are similarly represented in the sample.

In order to create an MI profile for the coursebook, it was analyzed in the context of Gardner's Multiple Intelligence Theory (MIT) by checking the compatibility of each activity from the book with each factor from MIT. The number of activities for each intelligence is presented in table 2.

Table 2

Number of activities compatible with intelligence factor from MIT

Intelligence	Number of activities
Verbal/Linguistic Intelligence	280
Logical/Mathematical Intelligence	216
Visual/Spatial Intelligence	98
Body/Kinaesthetic Intelligence	4
Musical Intelligence	120
Interpersonal Intelligence	95
Intrapersonal Intelligence	73
Total number of activities	886

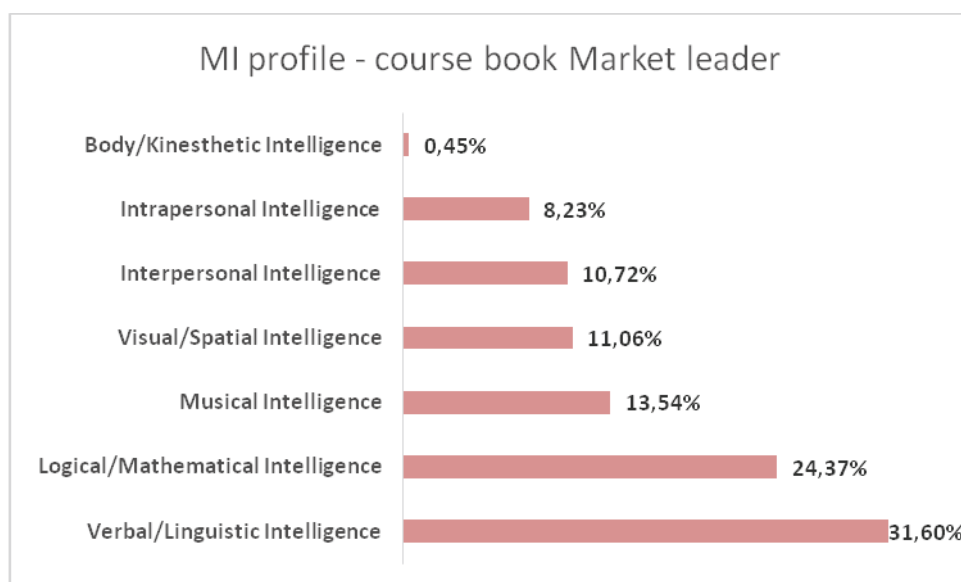For data presented in table 2 percenteges were calculated and shown in figure 3

Figure 3. Multiple intelligence profile for the course book

The number of activities that correspond to different intelligences present in the coursebook are ranked (from lowest frequency) in the following order: 1 – Body/Kinaesthetic Intelligence, 2 - Intrapersonal Intelligence, 3 – Interpersonal Intelligence, 4 – Visual/Spatial Intelligence, 5 – Musical Intelligence, 6 – Logical/Mathematical Intelligence, 7 – Verbal/Linguistic Intelligence.

To answer the question of whether these profiles are compatible, or in other words whether activities in the book are organized in a way that they require the engagement of these intelligences identified as students' main strengths, the ranks of intelligences within each profile were correlated using Spearman's rho coefficient of correlation. The value obtained was ρ = -.07, p = .88, which means that the ranks of one variable (students' intelligences) do not significantly covary with the ranks of the other variable (intelligence related activities in the book).

In Figure 4. the two of these profiles were put together for better insight into this not significant result.
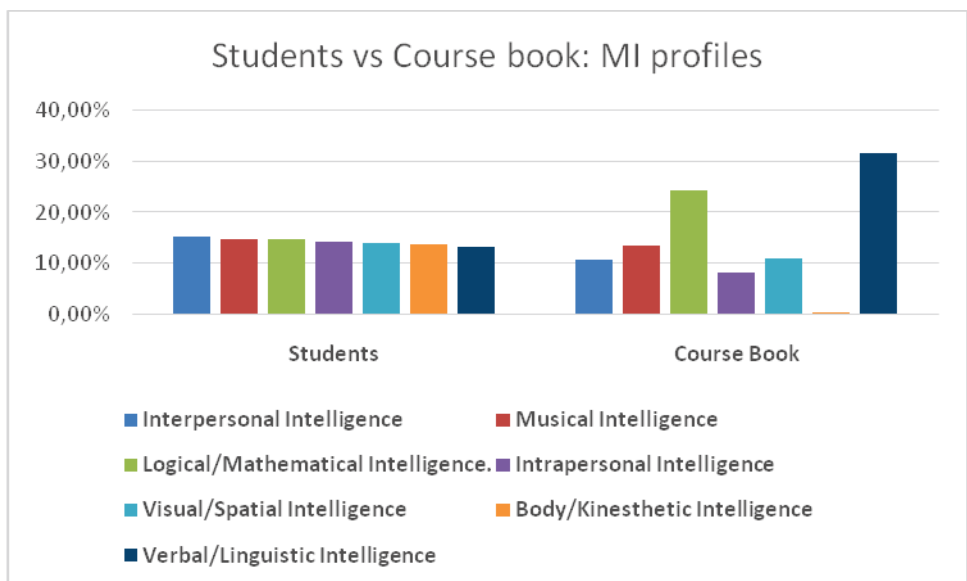

Figure 4. Comparison of Multiple Intelligences profiles of students and course book

According to figure 4, the representation of different intelligences in the student sample appear to be quite uniform, while the coursebook's MI profile is not. The largest discrepancy is apparent in verbal/linguistic intelligence in such a manner that this intelligence is represented almost 2.5

times more in the book than in the student sample. The situation is similar for the logical/mathematical aspect, which is almost two times more prominent in the coursebook. For body/kinaesthetic intelligence the situation is reversed, as it is almost completely neglected in the coursebook.

Students' scores in the analytical, interactive, and introspective domains were calculated as the sum of scores of the intelligence factors that belong to a particular domain. The score for the analytical domain was obtained by summing up scores for logical/mathematical intelligence and musical intelligence; for the interactive domain by summing up scores for verbal/linguistic intelligence, interpersonal intelligence and body/kinaesthetic intelligence; and finally, the score for the introspective domain was obtained by summing up scores for intrapersonal intelligence and visual/spatial intelligence (see table 1 for descriptive statistics). Regarding the coursebook, the total number of activities for each domain was calculated following the same logic (table 3).

Table 3

Number of activities in course book classified by Multiple Intelligence domains suggested by Gardner

MI domain	Intelligences	Number of activities
The Analytical domain	Logical/Mathematical Intelligence	216
	Musical Intelligence	120
	Naturalistic	-
		Total: 336
The Interactive domain	Verbal/Linguistic Intelligence	280
	Interpersonal Intelligence	95
	Body/Kinaesthetic Intelligence	4
		Total: 379
The Introspective domain	Intrapersonal Intelligence	73
	Visual/Spatial Intelligence	98
	Existential	-
		Total: 171

Inspection of figure 5 points to a different conclusion when higher order intelligence domains are calculated in comparison with the seven domains. It seems that the representation of students' intelligences by domains is relatively evenly matched with the domains profile of the coursebook. In both cases, the domains were ranked (from the lowest

frequency) in the following order: 1 – The Introspective Domain, 2 – The Analytical Domain, 3 – The Interactive Domain.
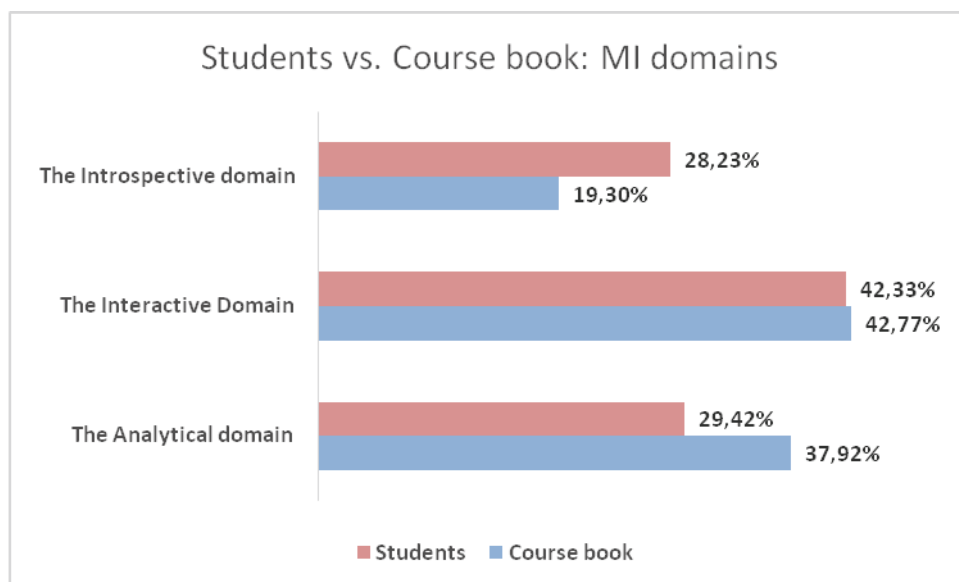

Figure 5. Comparison of an averaged students profile and course book profile based on Multiple Intelligence domains

4. Discussion

As figure 4 illustrates, there is a noticeable degree of misalignment between the students' MI profile and the coursebook's MI profile. When correlating the ranks in both profiles, i.e., whether activities in the book are organized in a way that they require the engagement of those intelligences which are the students' main strengths, ranks of intelligences within each profile were correlated using Spearman's rho coefficient of correlation. The value obtained was $\rho = -.07$, $p = .88$, which means that the ranks of one variable (students' intelligences) do not covary with the ranks of the other variable (intelligences in the coursebook). This indicates that the increase of one intelligence in one profile is accompanied by the decrease of the same intelligence in the other profile.

To shed more light on the negative correlation between the students' MI profile and the coursebook's MI profile, verbal-linguistic, and logical/mathematical intelligences first should be considered first. Verbal/linguistic intelligence is the primary intelligence in the coursebook with a 31.60 % prevalence, whereas it ranks last in the students' MI profile with a mean percentage of 13.29%. Logical/mathematical intelligence ranks second in the coursebook's MI profile, but it occupies the third position in

the students' MI profile. Visual/spatial intelligence ranks fifth in the students' MI profiles with a mean percentage of 13.93% while it ranks the fourth with 11.06% in the coursebook's activities. Conversely, the musical intelligence ranks second in students' profile while it ranks third in the coursebook MI profile, since there is 13.54% for music in the coursebook activities. As for the bodily/kinaesthetic intelligence, there is relatively less misalignment: it ranks sixth (13.85%) in the students' profile and seventh (0.45%) in the coursebook's profile. Interpersonal intelligence ranks fifth (10.72%) in the coursebook profile, while it is first (15.19%) in the students' profile. Intrapersonal intelligence ranks sixth (8.23%) in the coursebook profile, while it is fourth (14.29%) in the students' profile. Linking students' preferences in terms of MI theory into the existing MI profile of the English coursebook sheds more light on the extent of the misalignment, the possible reasons for it, as well as possible solutions. Therefore, the nature of the misalignment is further highlighted.

There is a substantial disproportion in verbal/linguistic and logical/mathematical intelligences as the two predominant intelligences in coursebook activities (55.97% prevalence). Verbal/linguistic intelligence comprises 31.60% (280) and logical/mathematical intelligences 24.37% (216) of all intelligences in the coursebook. There is a sharp contradiction between the presentation of these two intelligences in the coursebook as the two predominant intelligences when compared to how they rank in the students' MI profile. Although logical/mathematical intelligence ranks third (14.65%), verbal/linguistic intelligence (13.29%) is the least dominant intelligence. The discrepancy in this setting may indicate that the quality of these activities needs to be upgraded and diversified to appeal to students' varied interests and to satisfy their intelligences. This disparity between English language coursebooks and students' MI profiles has also been noted in descriptive studies have also indicated a disparity, including Ibragimova (2011); Abbasian & Khajavi (2012); Taase et al. (2014); Kırkgöz (2010); Al Seyabi and A'Zaabi (2016); and Safranj and Zivlak (2018).

As mentioned earlier, all seven intelligences rank equally in the students' profile, while they rank with certain variations in the coursebook profile. Apart from logical/mathematical and linguistic intelligences, which are dominant in the coursebook and ranked almost the same, musical and visual/spatial intelligences are moderately present as well. On the other hand, there is less emphasis on interpersonal and intrapersonal intelligences, especially body/kinaesthetic intelligence, which is represented in less than 1% of the activities. It can be concluded that students are taught by *Market Leader (Intermediate)* coursebook without much attention to their dominant learning inputs.

However, students' scores on the analytical, interactive, and introspective domains, which were calculated according to the factors that are supposed to belong to a particular domain, proved to correlate almost completely with the MI domains profile of their coursebook. It should be noted that the results obtained of the same data provide nearly the opposite outcome in comparison with individual intelligences. The findings are almost similar with those in Safranj and Zivlak (2018). Therefore, this research confirmed the previous findings that it is better to apply the comparison performed at the level of MI domains. Some future research could also focus on this aspect of analysis and accordingly provide better insight into the fluid relationship of the intelligences and how the intelligences work with one another. It would clearly facilitate teachers planning of English foreign language lessons and units which effectively address all of the intelligences in teaching activities.

5. Conclusion and pedagogical implications

As indicated by the obvious mismatch between the coursebook and the students' MI profiles across most of the intelligences, there is a gap in terms of MI which separates students and their coursebook. It should also be noted that analyzing and reviewing MI domains as resources is also important and should be examined more thoroughly when considering an MI approach in English language teaching. Consequently, future reconsiderations of an English language teaching syllabus need to be conducted with MI theory in mind. This would enable advancements in the quality of students' learning, since there are three main stages in designing an MI setting: (a) establishing practical educational goals, (b) carrying out practices or strategies based on MI theory, and (c) evaluating the process and the product based on MI measurements. In this case, MI domains may contribute to stating more precise educational objectives when designing English foreign language syllabus. It is important to note, however, that the faculty coursebook is still just a part of the curriculum. In addition to the coursebook, there are other requirements that need to be met in order to provide support to students' most prevalent intelligences. To achieve this, there are a variety of methods at hand, such as focusing teachers' attention on the importance of taking into account students' MI profiles, altering teaching approaches in order to satisfy students' prevailing intelligences, and instituting a range of extracurricular activities for students that involve various types of intelligences. Studying teaching strategies and materials that can affect learning outcomes should be the task of future research.

The pedagogical implications of this study are manifold. In order to help learners to better develop and improve their English language skills and

abilities, English foreign language teachers could take advantage of the data obtained in the present study to expand their awareness of students' multiple intelligence types as they relate to the MI profiles of the coursebooks and classroom activities used in teaching. By referring to the wheel of domains when planning for instruction, teachers can plan lessons and units which effectively address all of the intelligences in the classroom. There are two strategies for utilizing the MI wheel. The first is to *balance intelligences.* In planning a lesson, a teacher may select one intelligence from each domain in order to provide for a well-balanced accommodation of all types of intelligence. The second is to *target intelligences*. In planning instruction for a learner or group of learners, a teacher may target all the intelligences of a specific domain to provide for experiences that strengthen that particular domain. Using this model mindfully, teachers can apply the principles of multiple intelligences theory in planning and implementing learning experiences that address the emerging demands of language learning, support learners in developing the skills, values and attitudes towards successful learning and provide the conditions for the necessary instructional shift that will enable learning to meet the needs of nowadays society.

Moreover, teachers can make some adaptations in terms of materials or syllabus design so that they address individual differences. Teachers can devise their lessons to promote individualized learning by addressing different intelligences in balance. In addition, MI theory could be taught in classes to raise students' awareness of their abilities. Primarily, it can help teachers in creating or adapting teaching materials in line with MI theory in order to support students' multiple intelligences, thereby improving the teaching and learning processes. When based on MI domains, the framework can additionally be utilized to analyze coursebooks in various cultural and educational settings. Ultimately, this study has the potential to contribute to an overall understanding of the general application of MI in language classes. Future studies may be focused on examining the differences among students in their motivation to learn from a coursebook adapted based on their needs and talents rather than with a coursebook that does not support their preferences. Moreover, future research needs to examine coursebooks' compliance with intelligence needs to determine the level of their ability to predict success in language learning as well as to investigate possible gender and study program-related differences (for example, liberal arts vs. technical education) in relation to this.

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