

Is the Algerian EFL classroom diverse in terms of multiple intelligences?

La classe Algérienne d'ALE est-elle diversifiée en termes d'intelligences multiples?

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Abstract

Since the shift to learner-centeredness in educational settings, Multiple Intelligences Theory has captured the attention of many practitioners as a theory that endorses learners' uniqueness, and which promotes diversity in the classroom in terms of materials and instructions. This study attempts to show the variety of Multiple Intelligences profiles of an Algerian secondary school EFL class in which all learners receive the same instructions and are exposed to the same limited materials without taking into account the variety of their Multiple Intelligences profiles. Multiple Intelligences Inventory by McKenzie (1999-2017) was used to collect the needed data. The results show that the class's Multiple Intelligences profile is indeed rich and diverse. Linguistic intelligence, as well as spatial intelligence are predominant but all types of intelligences are present in the same classroom. This indicates that the Algerian classroom is not homogeneous in terms of intelligences, and that should be taken into consideration in future material and instruction design. Learners' differences should always be celebrated in the EFL classroom.

Keywords:

Multiple Intelligences Theory; Multiple Intelligences Profile; Algerian EFL classroom; Multiple Intelligences Inventory.

Resumé

Depuis le passage à l'individualisme et à la centration sur l'apprenant dans les contextes éducatifs, la théorie des intelligences multiples a attiré l'attention de nombreux praticiens en tant que théorie qui approuve le caractère

unique des apprenants et qui favorise la diversité dans la classe en termes de matériel et d'instructions. Cette étude tente de montrer la variété des profils d'intelligences multiples d'une classe d'ALE d'un lycée algérien dans laquelle tous les apprenants reçoivent les mêmes instructions et sont exposés au même matériel limité sans tenir compte de la variété de leurs profils IM. L'inventaire des intelligences multiples de McKenzie (1999-2017) a été utilisé pour collecter les données nécessaires. Les résultats montrent que le profil d'Intelligence Multiple de la classe est effectivement riche et diversifié. L'intelligence linguistique, ainsi que l'intelligence spatiale sont prédominantes mais tous les types d'intelligences sont présents dans la même classe. Cela indique que la salle de classe algérienne n'est pas homogène en termes d'intelligences, et cela devrait être pris en considération dans la future conception du matériel et de l'enseignement. Les différences des apprenants doivent toujours être célébrées dans la classe d'ALE.

Mots clés:

Théorie des intelligences multiples ; Profil Intelligences Multiples ; Classe algérienne d'ALE; Inventaire des Intelligences Multiples.

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1. INTRODUCTION

Learners' differences are a crucial point for educators to take into account when aiming towards a learner-centered EFL class. The 'Theory of Multiple Intelligences' is one outstanding which has revolutionized the field of teaching and learning in relation to individuality and learner centeredness.

Intelligence has always been a debatable matter among scholars and researchers. The theory of multiple intelligences stood out because it refused to accept intelligence as one entity that a person simply has or does not have; instead, it accepts intelligence as 'multi-faceted'. In other words, intelligence as possession is owned by all human beings, but each human being has a set of autonomous intelligences that work in unique ways.

Learners are different in terms of the way they receive and process information. Likewise, not all learners learn language the same way. One of their great differences is their multiple intelligences profile. One learner may have all types of intelligences in different degrees, which makes out his multiple intelligences profile. The MI profile, in this case, is unique to that particular learner. The variety of profiles we can find in Algerian EFL classes is countless. The most common predominant intelligences should be taken into account regarding the nature of the material and the instruction given to learners.

This paper looks into the predominant intelligences and the variety of Multiple Intelligences Profiles found in one EFL classroom. It discusses the theoretical grounding of a MI profile, examines learners' predominant intelligences, and creates a MI profile of the whole classroom.

2. Literature Review

2.1 What is MI theory?

Ever since the field of education started considering learner-centeredness, individual differences among learners were recognized and respected, and learners' mental capacities were reviewed. The theory of Multiple Intelligences is one revolutionary theory generated by the

psychologist Howard Gardner (1983-1999). And, despite that it was the work of a psychologist, MI theory was of most interest to educators.

In opposition to views of the existence of a 'general intelligence' as a single monolithic 'entity' that an individual either possesses or do not possess, Gardner (1983-1999) argues that intelligence is a multi-faceted possession that is owned by all human beings. Human beings have a set of autonomous intelligences, which work together in complex and unique ways, which manifest in the way one solves problems and creates culturally valuable products. The theory outlines 8 and ½ intelligences: naturalistic (nature smart), interpersonal-social (people smart), logical-mathematical (logic smart), visual-spatial (picture smart), intrapersonal (self-smart), bodily-kinesthetic (body smart), musical-rhythmic (music smart), verbal-linguistic (word smart) and existential (remained as 'candidate intelligence' for lack of empirical evidence.). MI theory is a learner-based theory that views learners as multi-dimensional in terms of cognitive capacity as well as artistic, physical, social, and spiritual capacities, which can all be subject to development (Gardner, 1983-1999).

The key points to retain from MI theory are summarized by Armstrong (2000) as follows:

- Every individual owns all the nine intelligences, but how they function together is unique to each person.
- Each intelligence can be developed to an adequate level of competency if properly encouraged or given the right instruction.
- All the intelligences are in constant interaction and do not exist and function in separation. No activity is fully visual or purely verbal.
- There is a variety of ways to be intelligent within one intelligence or between intelligences. A person can be linguistically intelligent in storytelling despite his low reading proficiency.

Multiple Intelligences Theory has revolutionized how education is viewed and practiced. According to Gardner (1993), education is a suitable area to observe the intelligences at work.

Armstrong (1999) adds that MI theory provides language learners with a variety of ways to strengthen their performance according to their different mental capacities.

2.2 What is a Multiple Intelligences Profile?

Learners' diversity is noticed in how EFL learners mobilize their mind strengths in the learning process. This diversity among learners makes it hard to adopt one suitable teaching strategy, one convenient instruction, or one type of activity to teach any aspect of the language. An MI profile can help EFL teachers to stimulate different intelligences via a variety of materials and instructions in order to address learners' differences and increase the attractiveness of EFL learning.

Multiple Intelligences are a universal human possession, but not all individuals have the same intellectual profile in terms of strengths and weaknesses, in other words, MI profiles are so unique that is impossible to find identical ones (Gardner 1983). According to Jane & Carmen (2004), multiple intelligences are the personal tools that are mobilized to recognize and store new information for future retrieval. Since all the intelligences are subject to progress, an MI profile is the map towards understanding how the intelligences manifest in the way learners learn, what motivates them, and who they are. And, it is a powerful tool to portray learners since it describes their skills, preferences, and potential (Fleetham, 2006).

According to Moran et al, the concept of 'a profile' of intelligences is what increases the potential of an MI approach to learning (Moran, Kornhaber, & Gardner, 2006). However, taking account of MI profiles is under-researched. A simple search on databases, taking ERIC an example, indicates that the number of published research papers related to Multiple Intelligences Profile and EFL classrooms carried out in the last 10 years is relatively modest. And, most research studies on MI theory focus on its application.

2.3 How to create a Multiple Intelligences Profile?

First, learners should be encouraged to self-evaluate their own intelligences. Tirri & Nokelainen (2011) elaborate that self-assessment is an important step to help learners grow as learners and human beings. Self-assessment helps learners to identify their own strengths and

weaknesses. Thus, self-evaluated MI can be an empowering tool in their studies. Besides, self-evaluation in this case is believed to be less threatening than evaluation done by teachers. According to Tirri & Nokelainen (2011), self-evaluated MI is highly related to learners' self-esteem and self-confidence. Many self-report inventories are used, but research says that self-report measures of intelligence modestly correlate with performance measures and have a validity limit of 0.3 for self-estimates of intelligence (Beth A., Michael C., & Philip A., 2006). However, the primary dynamic aspects of students' personal learning processes are their beliefs about themselves as learners, as well as their affective experience in relation to the nine intelligences (Kirsi, Petri, & Erkki, 2013). Available online tests or inventories can be used by learners or attributed to them by teachers to create their own MI profile, such as Birmingham Grid for learning (BGFL), the MI Wheel, the MIDAS system, The Multiple Intelligences Profiling Questionnaire (MIPQ), etc.

Second, teachers should be encouraged to create and assess classroom MI profiles to better understand their learners and cater to their cognitive differences. Despite the non-existence of a standardized instrument measuring Multiple Intelligences, there are several ways for teachers to build an MI profile. According to Fleetham (2006), one way to build MI profiles is for the teacher to ask how he is clever and how his learners are clever. Activities that the teacher best master defines his MI strengths, and activities which learners best engage with are based on their MI strengths. And, sometimes, the two may not be the same. It is important to note that MI profiles are an ongoing process, not one final product because learners keep growing and changing. The following tools can help teachers build up a MI profile:

a. Questionnaires and Inventories: A questionnaire can be the first glimpse at learners' MI profile; the first step into discovering and developing learners' abilities. It should not be used to label learners or to limit their potential. Questionnaires cannot cover all the questions about MI but they can give an accurate first impression of a learner. They reveal learners' strengths; however, learners should not be restricted to those strengths only. One inventory that is widely used by teachers to create an MI profile is the Multiple Intelligences Inventory by McKenzie (1999-2017).

b. Observation of behavior: Thousands of interactions take place in the classroom, every day. Some of these interactions stand out because they can tell the teacher about learners' MI profiles. Learners talking, arguing, moving around, listening, etc., can give the teacher an impression of learners' strengths and weaknesses.

Observation for MI signs in each learner everyday is not obvious. Instead, teachers can focus on a group of learners at a time, a specific activity, or evidence of one intelligence. Armstrong (2000) invites teachers to observe learners' intelligences while functioning in the class. He encourages teachers to keep a record of their observations. Teachers can keep notes whenever they notice an MI-related behaviour or they can use observation sheets.

c. Talking with parents: unlike teachers, parents are the ones who spend time with learners through all forms of family connections and interactions. They are the ones who can tell what their children are good at, how they learn, how they spend their time, and what motivates them. This information can be linked to their MI profile by the teacher. Teachers can use meetings with parents to build up profiles for their learners. Teachers can ask the parents MI-inspired questions like whether the learner practices any physical activities, plays an instrument, reads or tells stories at home, etc.

d. Talking with learners: When learners understand the MI principle, they will be able to assess it themselves. The teacher can ask learners questions like 'what is your favourite subject in school?', 'which lessons do you enjoy?', 'what do you do in your free time?', etc.

e. Using performance data: a MI profiling tool that looks into evidence produced by learners. It can be tests or exam scores. However, they may not test all learners' talents. Exams are an end product that generally tests memory skills, reading and writing. Some learners come to school with already developed kinaesthetic or interpersonal skills, but these skills are not used to assess their learning. To collect performance data, Fleehtam (2006) suggests that teachers consider: which intelligence the data maps on to, data for all intelligences is probably unavailable, and that data may not give a true picture of learners' intelligences.

f. Using work samples: what learners produce as an end product can tell a lot about a learner's intelligences. To work sample, final projects can be used to give learners the opportunity to choose how to demonstrate understanding or learning in general. Learners can choose to write a poem, sing a song, paint, act a scene or any other group work, make a diary, etc. Learners' choice, in this case, indicates areas of strength. What learners avoid usually points out their areas of weakness. The teacher can create a portfolio of evidence based on learners' work samples.

The teacher can come up with a class MI profile which is an average profile generated from all learners. It indicates the strongest and the weakest intelligences, and the kind of activities that the majority of learners will respond to enthusiastically. Many of the MI profiling methods can be used alone or in combination over the academic year.

Despite that educator's interest was mainly directed to the implications MI theory has in the classroom, creating MI profiles is particularly an under researched area. Recently, investigating MI theory in Iranian children and young adult EFL learners using Christion's (1998) young adult MI survey resulted in students' preference of all the intelligences in varying degrees (Sabzevari & Ebadi, 2020). Additionally, the MI profiles of 60 secondary

school EFL students in Turkey were gauged in attempts to investigate the relationship between MI profiles and reading strategy use, using the MI Inventory. Results showed predominance of the intrapersonal intelligence and the existence of all the intelligences except for the naturalist one (Iyitoglu & Aydin, 2015). Also, using the MI Inventory by McKenzie, the MI profile of 302 Indonesian secondary school students showed possession of all the intelligences in strong, moderate, and weak levels, with predominance of existential intelligence (Emmiyati, Rasyid, Rahman, Arsyad, & Dirawan, 2014).

In the Algerian context, most published studies are concerned with analyzing the presence of MI in textbooks or investigating attitudes towards the theory (Atrous & Ben Boulaid, 2021 ; Boulmaiz, 2017 ; Hadj Said, 2021), which questions whether there is an interest at all in profiling learners according to their different mind capacities in the Algerian context. A study, which was originally carried out to incorporate teaching poetry through MI, used McKenzie's MI Inventory to show considerable variation in the MI profile of the class and predominance of verbal intelligence among 97 secondary school students (Hammoudi, 2011).

Noticeably, none of the mentioned MI profiles is identical to another. And, predominance of the intelligences varies distinctively. In addition, there is a heavy reliance on McKenzie's MI Inventory in taking account of MI profiles. This all adds up to the fact that profiling EFL classes is something to consider when taking decisions in relation to teaching EFL.

3. The Study

3.1 Participants

The study was carried out in Ahmed Boukharouba Secondary School in Oum El Bouaghi, during the first semester of the academic year 2020-2021. The participants are second year secondary school students of a randomly chosen scientific stream class. The sample was pre-existent before the study took place. And, due to precautionary measures taken by the ministry of education against COVID pandemic, number of students per class was limited. Accordingly, the class consists of 37 students aging from 16 to 18.

3.2 Research Questions and Hypotheses

This study aims to answer the following questions:

- What are the dominant intelligences among Algerian EFL learners?

- How variant is the MI profile of the Algerian EFL classroom?

Hypothetically, the predominant intelligence is linguistic-verbal intelligence. And, the class's MI profile shows diversity in the distribution of the intelligences.

3.3 Instrument

Multiple Intelligences Inventory was the instrument used to identify learners' MI profiles (Accessible on (<https://surfaquarium.com/MI/inventory.htm>)). It is a non-copyrighted instrument that was designed by Walter McKenzie (1999-2017). It mainly aims at creating individuals' multiple intelligences profiles by identifying the predominant intelligence. It consists of 9 sections corresponding to the 9 intelligences. Each section comprises 10 statements corresponding to one type of intelligence. For each statement, learners enter number zero (0) if they do not agree and (1) if they agree with the statement (e.g. I learn by doing) or enjoy the activity being described (e.g. I enjoy working in a garden). According to McKenzie (2005), the area of the intelligence in which learners score the highest is their dominant type of intelligence.

3.4 Procedure

A printed version of the inventory was administered to learners on October 13th, 2020. Statements were read and explained to learners in both English and Arabic to ensure maximum understanding. Learners were given enough time to answer the questionnaire. The teacher assisted through the whole process. Less than two hours were enough for all learners to finish the Inventory. To collect the data, students have multiplied the score of each section by 10, then plotted the scores on a bar graph following the instructions of the inventory. The results were later analyzed through descriptive statistics.

4. Results

The aim of this study was to identify the predominant intelligence among the class's learners, and to examine the distribution of the intelligences to see whether the whole class's MI profile is varied. The following table describes students' MI profiles and the predominant intelligence for each student:

Table 1. Distribution of students' predominant intelligence(s)

Students	Ntr	Mus	Log	Exst	Scl	Kns	Lng	Intra	Vis	Predominant Intelligence(s)
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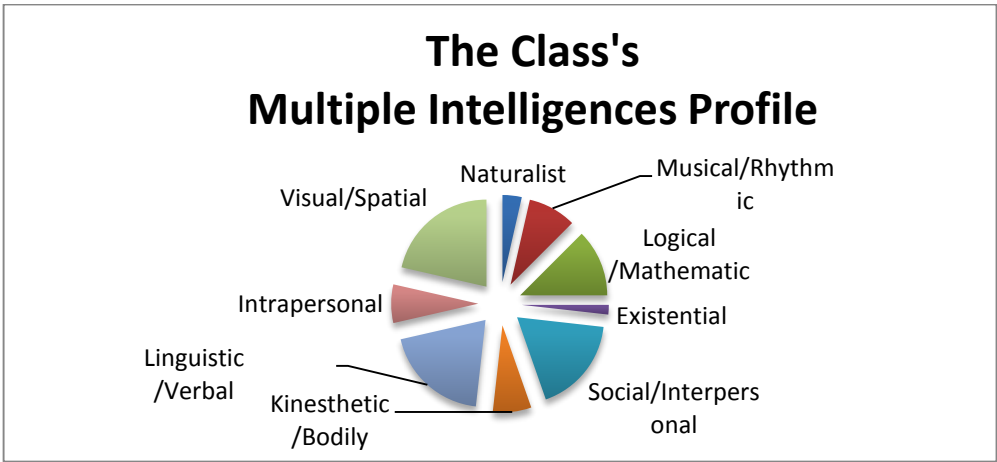
1.	40	50	50	30	20	40	40	60	60	Intrapersonal-Visual
2.	10	30	40	00	70	60	40	10	70	Social-Visual
3.	40	50	60	50	90	70	90	30	70	Social-Linguistic
4.	30	80	60	30	70	80	70	40	90	Visual
5.	20	40	30	20	60	30	40	00	50	Social
6.	20	70	90	30	00	80	40	40	90	Logical-Visual
7.	20	60	60	50	80	70	80	60	60	Social-Linguistic
8.	30	70	60	30	70	90	90	30	60	Kinesthetic-Linguistic
9.	30	40	20	40	90	60	70	10	50	Social
10.	10	50	80	20	50	40	50	00	70	Logical
11.	20	50	50	40	80	70	90	20	60	Linguistic
12.	60	50	40	20	10	50	30	20	60	Naturalist-Visual
13.	20	70	50	40	50	60	40	10	70	Musical-Visual
14.	30	60	30	50	80	40	70	20	90	Visual
15.	30	50	40	20	50	60	30	10	60	Kinesthetic-Visual
16.	30	50	30	40	10	30	60	60	50	Linguistic-Intrapersonal
17.	10	30	70	20	50	40	40	10	40	Logical
18.	30	70	60	50	40	60	70	30	50	Musical-Linguistic
19.	20	40	50	30	10	40	60	70	90	Visual
20.	30	40	20	30	70	30	40	00	50	Social
21.	20	70	40	30	00	80	90	50	70	Linguistic
22.	00	50	40	50	80	60	80	10	50	Social-Linguistic
23.	30	60	50	60	80	90	40	10	50	Kinesthetic
24.	10	30	10	30	60	20	30	00	50	Social
25.	10	20	50	20	30	40	40	20	40	Logical
26.	20	40	40	40	00	70	90	90	50	Linguistic-Intrapersonal
27.	10	60	30	20	60	50	30	10	50	Musical-Social
28.	70	70	70	30	30	60	40	20	40	Naturalist-Musical-Logical

29.	30	60	30	50	80	40	70	10	90	Visual
30.	20	20	30	30	60	70	70	10	60	Kinesthetic-Linguistic
31.	20	40	20	60	20	40	50	50	60	Existential-Visual
32.	30	40	30	30	80	70	60	10	50	Social
33.	30	60	50	40	50	50	50	00	50	Musical
34.	10	50	40	40	10	30	40	80	80	Intrapersonal-Visual
35.	40	30	60	30	30	40	50	20	60	Logical-Visual
36.	00	60	30	50	20	70	80	60	50	Linguistic
37.	30	70	80	40	60	50	70	10	60	Logical

Table 2. Dominance of the intelligences

Abbreviation	Intelligence	Score	Percentage
Ntr	Naturalist	2	5.40%
Mus	Musical/Rhythmic	5	13.51%
Log	Logical/Mathematical	7	18.91%
Est	Existential	1	2.70%
Scl	Social/Interpersonal	10	27.02%
Kns	Kinesthetic/Bodily	4	10.81%
Ling	Linguistic/Verbal	11	29.73%
Intra	Intrapersonal	4	10.81%
Vis	Visual/Spatial	12	32.43%

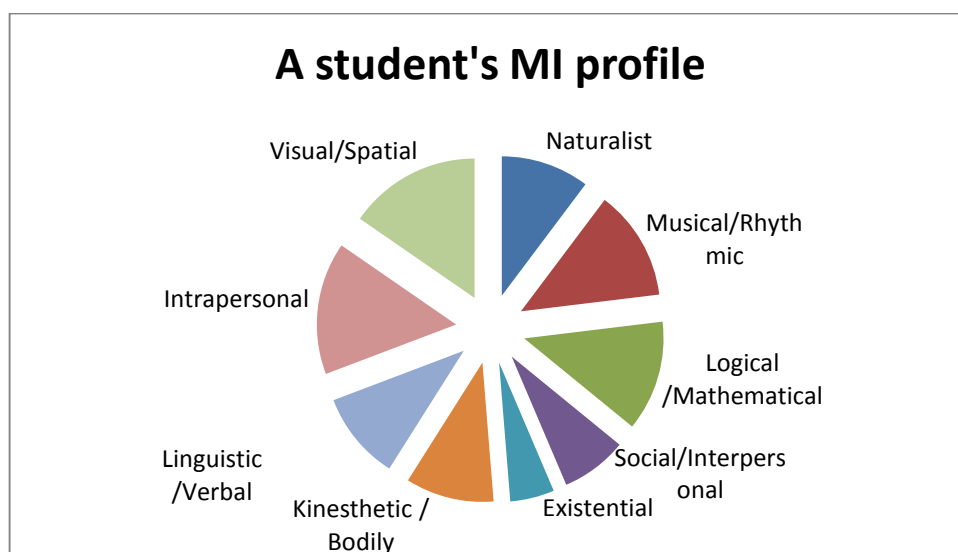
Graph 1. Representation of the MI profile of the whole class



According to the findings, the dominant intelligence among the target group is visual-spatial (32.43%), followed by linguistic-verbal (29.73%), social-interpersonal (27.02%), logical-mathematical (18.91%), musical-rhythmic (13.51%), equally: kinesthetic-bodily and intrapersonal (10.81%), naturalist (5.40%), and existential (2.70%). Noticeably, all the 9 intelligences are present, and 19 out of 37 students (51.35%) have an MI profile dominated by more than one intelligence. However, only 1 profile out of 37 is dominated by existential intelligence.

Table 3. A sample of a student’s MI profile

	Naturalist	Musical	Logical	Existential	Social	Kinesth	Linguistic	Intrapr	Visual	Dominant Intelligence(s)
Student	40	50	50	30	20	40	40	60	60	Intrapr-visual

Graph 2. Representation of student's MI profile

As shown, the student's MI profile is predominated equally by intrapersonal and visual intelligences (16%), followed by musical and logical intelligences (13%). Social intelligence (5%) is the least present, but all nine intelligences are present, which indicates the variety in this profile. The student in question is both self-smart and picture smart. He enjoys working alone and learns best through visualizing and working with pictures and colors. It is important to note that the MI inventory is meant as a snapshot in time i.e., intelligence preferences can change and the same MI profile is subject to change over time (McKenzie, 2005).

5. Discussion

The purpose of the study was to gauge learners' MI profiles to identify the predominant intelligence and to examine whether the MI of the class shows diversity in the distribution of the intelligences. The findings indicate that the present MI profile is a 'jagged' profile, which is the most common type of profiles (Moran, Kornhaber, & Gardner, 2006). Jagged profiles display considerable variations among their intelligences (Table 1). This implies that learners process some types of information better than others. In this case, domination of visual-spatial (32.43%), linguistic-verbal (29.73%) and social-interpersonal intelligences (27.02%) signifies that this class is mostly triggered by visuals, words, and group interactions. The target learners mostly enjoy activities that appeal to visual and spatial learning, saying, hearing, and reading words while sharing and cooperating. Still, this does not mean that other activities should be neglected. In the same class some learners are logic smart, music smart, body smart, and nature smart. Teaching accordingly means catering for all the intelligences, nourishing areas of strength and train areas of weakness. Here, it falls on the shoulders of the teacher to bring up and nourish all the intelligences. Additionally, it is worth noting that all the nine intelligences are present in the profile with different degrees, and that a considerable number of learners' MI profiles (51.35%) are predominated by more

than one intelligence (Table 1). This is in line with the preliminary assumption that the target class shows diversity in the distribution of the intelligences.

As the results imply, the three predominant intelligences: visual-spatial (32.43%), linguistic-verbal (29.73%) and social-interpersonal (27.02%) are the class's areas of strength. This implies that learners of the present class have reported being: picture smart, word smart, and people smart. However, this predominance is incompatible, when compared with textbook instructions learners of second year secondary school receive. According to a content analysis of the textbook in question, the occurrence frequency of the predominant intelligences is consecutively ranked: verbal-linguistic intelligence, interpersonal intelligence, and visual-spatial intelligences (Hadj Said, 2021). In this case, if extra materials and a variety of instructions are not to be implemented, strengths in social-interpersonal intelligence will definitely be neglected.

Moreover, as the findings show, the mere existence of a MI profile dominated by existential intelligence (2.70%) raises questions regarding learners' awareness of 'the intelligence of big questions' (Gardner, 1999, p.60). However, it is understandable that learners' ability to locate themselves with respect to existential features and profound spiritual and philosophical experiences may not be fully developed at this age. Instead of neglecting existential intelligence, the teacher in this case should it by using materials that encourage deep reflection on subjects like existential theories and the nature of humanity, existential themes in literature, and questions of ultimate life concerns that are essential to understanding human culture (Armstrong, 2000).

Finally, since scholars insist on the uniqueness of MI profiles (Armstrong, 2000 ; Gardner, 1983 ; McKenzie, 2005), EFL classes with other predominant intelligences are undoubtedly available. Since each individual has a distinct MI profile, it proves out that each class would also has a unique MI profile of its own as well. All of this adds up to the fact that each MI profile is unique to varaying degrees. Yet, additional investigation and further evidence with larger samples is needed.

6. Pedagogical Implications

In light of these findings, there are several pedagogical implications worth considering. First, it is necessary to assess learners' multiple intelligences. Measures like creating MI profiles should be carried out more often, before carrying any teaching models. According to Gardner (1993), a MI profile is best identified at an early stage to enhance the learner's opportunities in education. If the EFL teacher is to cater for the different intelligences, a MI profile can act as a map to address learners' uniqueness by using a variety of language instructions and materials to increase the attractiveness of EFL learning. In this regard, MI inventories and tests are powerful tools that should be promoted among teachers as well as learners.

Second, according to McKenzie (2005), when creating a MI profile, the teacher has to remember that every learner has all the intelligences. The absence of any intelligence does not mean that it cannot be strengthened. Also, the MI Inventory is meant as a snapshot in time and intelligence preferences can change. That is why assessing learners' multiple intelligences can be carried over different periods of time throughout the whole course. Intelligence preferences are subject to change and progress. In addition, a MI profile is meant to empower the learner, not label him. Teachers should not limit learners' potential to one or two intelligences. Inequity in dealing with learners based on their MI profiles must be avoided. The teacher's role is to ascertain students' abilities, pinpoint areas that need further enhancement, and target areas that need improvement. Acknowledging that a student may be intelligent in different ways is the first step in enabling students to reach their full potential (McKenzie, 2005)

Third, teachers have to make sure to discuss with their class how results of such measures and how a MI profile can help them appreciate all the ways they can learn. Learners need to have a clear idea about their strengths and weaknesses. Their perception of themselves in all areas of intelligences can be a dynamic factor in their personal learning process.

Moreover, learners vary in their intellectual profiles. Taking this premise into account can be of great influence on the Algerian EFL classroom. If learners vary in their MI profiles, so should materials and instructions vary too. Designing courses to activate different parts of the learner's brain by engaging all the intelligences to bring up and nourish learners' different intelligences falls on the shoulders of the teacher.

7. CONCLUSION

However challenging it is, teachers need to celebrate their learner's differences and address them in their practices. Teachers are required to teach and assess in ways that cater for the different capacities of learners. Crowded classes and shortage in materials can hinder the process in the case of the Algerian secondary school, but enhancing learners' opportunities in education should always be a priority. It is on the educational system as a whole: teachers, textbook designers, curriculum designers, etc to emphasize learners' individual differences and try to develop textbooks, materials, activities, instructions, etc that respond to their uniqueness, and accommodate for learners' variety.

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APPENDIX

Multiple Intelligences Inventory

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Part I Complete each section by placing a "1" next to each statement you feel accurately describes you. If you do not identify with a statement, leave the space provided blank. Then total the column in each section.

Section 1

- ___ I enjoy categorizing things by common traits
- ___ Ecological issues are important to me
- ___ Classification helps me make sense of new data
- ___ I enjoy working in a garden
- ___ I believe preserving our National Parks is important
- ___ Putting things in hierarchies makes sense to me
- ___ Animals are important in my life

- ___ My home has a recycling system in place
- ___ I enjoy studying biology, botany and/or zoology
- ___ I pick up on subtle differences in meaning

___ TOTAL for Section 1

Section 2

- ___ I easily pick up on patterns
- ___ I focus in on noise and sounds
- ___ Moving to a beat is easy for me
- ___ I enjoy making music
- ___ I respond to the cadence of poetry
- ___ I remember things by putting them in a rhyme
- ___ Concentration is difficult for me if there is background noise
- ___ Listening to sounds in nature can be very relaxing
- ___ Musicals are more engaging to me than dramatic plays
- ___ Remembering song lyrics is easy for me

___ TOTAL for Section 2

Section 3

- ___ I am known for being neat and orderly
- ___ Step-by-step directions are a big help
- ___ Problem solving comes easily to me
- ___ I get easily frustrated with disorganized people
- ___ I can complete calculations quickly in my head
- ___ Logic puzzles are fun
- ___ I can't begin an assignment until I have all my "ducks in a row"
- ___ Structure is a good thing
- ___ I enjoy troubleshooting something that isn't working properly
- ___ Things have to make sense to me or I am dissatisfied

___ TOTAL for Section 3

Section 4

- ___ It is important to see my role in the "big picture" of things
- ___ I enjoy discussing questions about life
- ___ Religion is important to me
- ___ I enjoy viewing art work
- ___ Relaxation and meditation exercises are rewarding to me
- ___ I like traveling to visit inspiring places
- ___ I enjoy reading philosophers

- ___ Learning new things is easier when I see their real world application
- ___ I wonder if there are other forms of intelligent life in the universe
- ___ It is important for me to feel connected to people, ideas and beliefs

___ TOTAL for Section 4

Section 5

- ___ I learn best interacting with others
- ___ I enjoy informal chat and serious discussion
- ___ The more the merrier
- ___ I often serve as a leader among peers and colleagues
- ___ I value relationships more than ideas or accomplishments
- ___ Study groups are very productive for me
- ___ I am a "team player"
- ___ Friends are important to me
- ___ I belong to more than three clubs or organizations
- ___ I dislike working alone

___ TOTAL for Section 5

Section 6

- ___ I learn by doing
- ___ I enjoy making things with my hands
- ___ Sports are a part of my life
- ___ I use gestures and non-verbal cues when I communicate
- ___ Demonstrating is better than explaining
- ___ I love to dance
- ___ I like working with tools
- ___ Inactivity can make me more tired than being very busy
- ___ Hands-on activities are fun
- ___ I live an active lifestyle

___ TOTAL for Section 6

Section 7

- ___ Foreign languages interest me
- ___ I enjoy reading books, magazines and web sites
- ___ I keep a journal
- ___ Word puzzles like crosswords or jumbles are enjoyable
- ___ Taking notes helps me remember and understand
- ___ I faithfully contact friends through letters and/or e-mail
- ___ It is easy for me to explain my ideas to others

- ☐ I write for pleasure
☐ Puns, anagrams and spoonerisms are fun
☐ I enjoy public speaking and participating in debates

____ TOTAL for Section 7

Section 8

- ☐ My attitude affects how I learn
☐ I like to be involved in causes that help others
☐ I am keenly aware of my moral beliefs
☐ I learn best when I have an emotional attachment to the subject
☐ Fairness is important to me
☐ Social justice issues interest me
☐ Working alone can be just as productive as working in a group
☐ I need to know why I should do something before I agree to do it
☐ When I believe in something I give more effort towards it
☐ I am willing to protest or sign a petition to right a wrong

____ TOTAL for Section 8

Section 9

- ☐ Rearranging a room and redecorating are fun for me
☐ I enjoy creating my own works of art
☐ I remember better using graphic organizers
☐ I enjoy all kinds of entertainment media
☐ Charts, graphs and tables help me interpret data
☐ A music video can make me more interested in a song
☐ I can recall things as mental pictures
☐ I am good at reading maps and blueprints
☐ Three dimensional puzzles are fun
☐ I can visualize ideas in my mind
☐ TOTAL for Section 9

Part II Now carry forward your total from each section and multiply by 10 below:

Section	Total Forward	Multiply	Score
1		X10	

2		X10	
3		X10	
4		X10	
5		X10	
6		X10	
7		X10	
8		X10	
9		X10	

Part III Now plot your scores on the bar graph provided:

100									
90									
80									
70									
60									
50									
40									
30									
20									
10									
0	Sec 1	Sec 2	Sec 3	Sec 4	Sec 5	Sec 6	Sec 7	Sec 8	Sec 9

Part IV Key:

Section 1 – This reflects your Naturalist strength

Section 2 – This suggests your Musical strength

Section 3 – This indicates your Logical strength

Section 4 – This illustrates your Existential strength

Section 5 – This shows your Interpersonal strength

Section 6 – This tells your Kinesthetic strength

Section 7 – This indicates your Verbal strength

Section 8 – This reflects your Intrapersonal strength

Section 9 – This suggests your Visual strength