UNIVERSIDAD COMPLUTENSE DE MADRID

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TESIS DOCTORAL

Multiple Intelligences: A Perspective Of Music In The Improvement Of Emirati English And The Interinfluence Between Emirati English And Emirati Arabic

Inteligencias múltiples: una perspectiva musical en la adquisición del inglés emiratí e interinfluencias entre árabe emiratí e inglés

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INTELIGENCIAS MÚLTIPLES: UNA PERSPECTIVA MUSICAL EN LA ADQUISICIÓN DEL INGLÉS EMIRATÍ E INTERINFLUENCIAS ENTRE ÁRABE EMIRATÍ E INGLÉS

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RESUMEN

Esta investigación tiene como objetivo utilizar las Inteligencias Múltiples (MI) de Gardner para mejorar el aprendizaje en Dubai y Abu Dhabi, en los Emiratos Árabes Unidos (EAU), además de analizar las interinfluencias del inglés emiratí y el árabe emiratí. La primera parte del estudio representa los aspectos sociolingüísticos en los EAU. Explora la interinfluencia del árabe emiratí y el inglés: la influencia de las preposiciones árabes en el inglés emiratí, las palabras en inglés utilizadas en el árabe emiratí, la interferencia en la pronunciación y en los tiempos verbales, y el cambio de código. Todas estas variantes y sus ocurrencias serán analizadas en términos de edad, género y logros educativos, tres variables sociales cruciales en el comportamiento lingüístico (Labov, 1972; Alahmadi, 2016).

Para lograr esto, administraremos cuestionarios y registraremos a los emiratíes de secundaria (17-18 años) y emiratíes de 38 a 50 años, esto significa una brecha generacional de al menos 20 años1. Estos alumnos y ex alumnos también serán invitados a responder un segundo cuestionario relacionado con el sistema educativo de los EAU: el número de asignaturas cuyas instrucciones son en inglés y el nivel de dificultad que implica el idioma; si el sistema de evaluación se basa únicamente en exámenes o si hay una evaluación progresiva.

Entre otras cuestiones nos gustaría saber si las clases están centradas en el libro, si hay actividades que se desarrollan fuera del aula y si las actividades se realizan individualmente o en grupo, variante importante para las inteligencias interpersonales e intrapersonales. La segunda parte de la investigación amplía la investigación para averiguar si los emiratíes con inclinaciones musicales tienen una mejora significativa en el dominio de la gramática y la pronunciación del inglés cuando se entrenan a través de la música; este grupo experimental se comparará con el grupo de control (participantes emiratíes que recibirán un entrenamiento convencional idéntico: escuchando a un instructor y repitiendo). Después de una prueba piloto, se decidió trabajar con los fonemas con los que los emiratíes tenían dificultades: /v/, /p/, /r/ y /æ/.

Se espera que ambos 1 A medida que las nuevas generaciones buscan definirse a sí mismas como algo aparte de las antiguas, adoptan una jerga y una jerga nueva, lo que permite que una generación cree un sentido de división con respecto a la anterior. Esta es una brecha visible entre generaciones que percibimos a diario "El símbolo más importante de los humanos es su lenguaje y

a través de este lenguaje definen su realidad. (Prasad, 1992) los grupos de control y experimentales mejorarán después de las seis sesiones de entrenamiento y que el grupo experimental En cuanto a las preposiciones, los árabes en general abusan de la preposición “in”, debido a la abundancia de la preposición “fi” en árabe que casi siempre se asocia a “in” en inglés.

Esta práctica hace que los árabes ignoren las preposiciones “sobre”, “en” y “por”, por ejemplo. La formación aplicará una técnica creativa para corregir este error. Este trabajo se comparará con nuestro último estudio presentado en 2014 en el que el grupo experimental, compuesto por bailarines, fue capacitado en las áreas de pronunciación y química con la ayuda de la música y la danza.

Este grupo obtuvo resultados mucho mejores en comparación con el grupo de control. Nos gustaría proponer que las Inteligencias Múltiples son un instrumento fundamental para maximizar el aprendizaje

ABSTRACT

This research aims to use the Gardner's Multiple Intelligences (MI) for the enhancement of learning in Dubai and Abu Dhabi, in the United Arabs Emirates (UAE) in addition to analyzing the interinfluences of Emirati English and Emirati Arabic.

The first part of the study represents the sociolinguistic aspects in the UAE. It explores the interinfluence of Emirati Arabic and English: Arabic prepositions' influence in the Emirati English, English words used in the Emirati Arabic, interference in pronunciation and in verb tenses, and code switching. All these variants and their occurrences will be analyzed in termsof age, gender, and educational achievements, three crucial social variables concerning linguistic behavior (Labov, 1972; Alahmadi, 2016).

To accomplish this, we will administer questionnaires and record Emirati high schoolers (17-18 years of age) and Emiratis from 38 to50 years of age, this means a generation gap of at least 20 years[1]. These students and alumniwill also be invited to answer a second questionnaire related to the education system in the UAE: the number of subjects whose instructions are in English and the level of difficulty that the language involves; whether the evaluation system is based solely on exams or if there is progressive assessment. Among other questions we would like to know if the classes are book-centered, if there are activities which take place outside the classroom, and if activitiesare carried out individually or in group – important variant for interpersonal and intrapersonal intelligences.

The second part of the research extends the investigation to find out if Emiratis with musical proclivities have a significant improvement in the domain of English grammar and pronunciation when trained through music; this experimental group will be compared with the control group (Emirati participants who will receive identical conventional training:listening to an instructor and repeating). After a pilot test, it was decided to work with the phonemes that Emiratis had difficulty with: /v/, /p/, /r/, and /æ/. It is expected that both control and experimental groups will improve after the six training sessions and that the experimental group will outrank the control.

[1] As new generations seek to define themselves as something apart from the old, they adopt new lingo and slang, allowing a generation to create a sense of division from the previous one. This is a visible gap betweengenerations we perceive daily "Humans' most important symbol is their language and through this language they define their reality. (Prasad, 1992)

With regard to the prepositions, Arabs in general overuse the preposition “in”, due to the abundance of the preposition “fi” in Arabic which is almost always associated to “in” in English. This practice makes that Arabs ignore the prepositions “on”, “at” and “by”, for instance. The training will apply a creative technique to correct this mistake.

This work will be compared with our last study presented in 2014 in which the experimental group, composed of dancers, was trained in the areas of pronunciation and chemistry with the aid of music and dance. This group obtained much better results comparedto the control group.

We would like to propose that Multiples Intelligences is a fundamental instrument to maximize learning.

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I am extremely thankful to my supervisor, Dr. Adil Moustaoui, for the valuable support and guidance he has provided me in the composition of this PhD thesis and also for the encouragement, enlightenment, and friendliness. I would really appreciate to show my gratitude to the founders and Emirati teachers of Alramsa Institute in Dubai Hanan Al Fardan and Abdulla Alkaabi, as well as to teacher Khairat Almazouie, who helped me with Emirati Arabic. They were also a great support in helping me find data for this study. I want to express my sincere gratitude to my parents (in memoriam of my father), for their understanding, care, and support and above all, I am thankful to Allah.

أنا ممتن جداً لمشرفي، الدكتور عادل المستوي، ليس فقط على النصائح والإرشادات القيمة التي قدمها لي في كتابة أطروحة الدكتوراه هذه، ولكن أيضا على التشجيع والتنوير والود. أود أن أعرب عن امتناني لمؤسسي ومدرسي معهد الرمسى بدبي حنان الفردان وعبد الله الكعبي، وكذلك للمعلم خيرت المزوعي الذي ساعدني في اللغة العربية الإماراتية. لقد كانوا أيضا دعماً كبيراً في مساعدتي في العثور على بيانات لهذه الدراسة. أتوجه بخالص شكري إلى والدي (تخليداً لذكرى والدي) على حبهم وتفهمهم ودعمهم ، وقبل كل شيء أشكر الله.

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I. INTRODUCTION

The United Arab Emirates (UAE) were constituted in 1971 after oil had been found in the region[2], which led to colossal immigration mainly to Dubai – where 96 percent of its population is foreign-born (Brook, 2013) – and Abu Dhabi. In this new globalized scenario, a demand for international schools was clear and English began to be used in most public places, including bars, movie theaters and shopping malls, where the staff scarcely speak any Arabic. Our study intends to shed light on how this English context influences Emiratis. We will investigate whether educated Emiratis learn through Content and Language Integrated Learning (CLIL), as they have to survive in these two aforementioned English-speaking cities and whether schools have been responding to new findings - in light of self-assessment, peer-assessment, interdisciplinarity, individual-centered education, individual's profile (Gardner, 2006). We have created questionnaires for the participants, who have also been recorded, in order to examine these qualities.

The Theory of Many Intelligences (MI) will also be utilized in this research as a tool to aid students' learning, as a continuation to our study presented in 2014 (Ribeiro Daquila). MI was presented by the renowned professor Howard Gardner in 1983. He supports the eight intelligences that exist in humans, not just one, as was previously claimed by psychologists. They include musical, mathematical, linguistic, spatial, intrapersonal, interpersonal, and naturalist intelligences in addition to physical kinesthetic intelligence. We'll concentrate on musical intelligence in our work.

In this study, an experiment will be conducted by teaching musically inclined Emiratis (experimental group, from now on exp. group) in the discipline of English grammar and pronunciation to find out whether these areas will improve significantly when contrasted with the control group (composed of regular students, who will undergo the same training using a

[2] Dubai history, retrieved from the official government Dubai website http://www.dubai.ae/en/aboutdubai/Pages/DubaiHistory.aspx

traditional approach). The findings of this study when compared to those obtained in our previous research might

lead us to new approaches to learning, making use of students' strengths to help them in the areas that they are weak.

We want to emphasize that although this research applies music as an example of a potential area of participants' expertise; there exist several forms of the arts, such as theater, creative writing, dance (which was the subject of our earlier study), and others, may and should be used to encourage participants.

The two main aims of this work are: firstly, to analyze the curriculum of high schools in Dubai and Abu Dhabi, the two largest melting-pot cities in the UAE, and the inter-influence of Arabic and English in the Emirates. Secondly, if music proves to be more effective than regular teaching as a tool to improve other domains (English grammar and pronunciation, in the case of this study), then music would be suggested to be used as a tool for musically inclined students. Music would then be one of the options for these learners to get around difficult aspects in other subjects; students could, for instance, present their projects, study for their exams, and do their homework by using music.

1.1. Research Questions

Regarding the educational system in secondary schools in the Emirates and the use of multiple intelligences in the classroom, the following study questions were posed. We employed two techniques to try to get the answers to these questions: we created detailed questionnaires for students and alumni, in addition to video registrations.

1. Emiratis who go to public schools have only 5 hours of English lessons weekly. Are these hours enough to make them feel comfortable and prepared to live in mostly English-speaking cities (Dubai and Abu Dhabi)?

2. Do educators employ the many forms of media at their disposal—smartboards, PowerPoint, music, presentations, and computer labs—to promote learning?

3. Is the influence of English greater on high-school students (17 - 18 years old) than on the alumni (38 – 50 years old)?

4. Are the 2 hours of Arabic per week enough for students at the international schools in Dubai and Abu Dhabi adequate to promote conversations in Arabic among Emiratis and expatriates?

5. How does the Arabic grammar reflect on the English used by the Emiratis and vice versa?

In addition, the following study questions were posed to examine the viability of teaching content using music:

1. Is there a difference in performance between the control group's individuals who learn using conventional means (reading and repeating the drills) and the exp. group's participants who learn through music?

2. Are the findings consistent with those of our prior study (Ribeiro Daquila, 2014), in which the dance exp. groups 1 and 2's results showed a statistically significant imbalance after being contrasted with the control, which consisted of secondary students trained in the conventional manner (reading and repetition of the drill)?

1.2. Motivation

What motivated me to do research in the Emirates was firstly the lack of academic studies on the country when compared to other Arab countries. In addition, such interest aroused from my experience as an editor, proofreader, and translator for Emirati books at the Alramsa Institute[3] in Dubai. While translating and editing some books I realized the amount of influence that English has on Emirati Arabic. Moreover, during my first visits to the UAE I realized the difficulty in finding workers who spoke Arabic while I was doing the shopping, taking a taxi, or ordering food, for instance. This does not happen in other Arab countries;

[3] Alramsa Institute is a language institute in Dubai that teaches Emirati Arabic mostly for expats, but also for Emiratis who have either been raised abroad or have studied in private schools in which Arabic was not the language of instruction.

even in other Gulf countries - which are the countries that contain the fewest local residents - we can find more Arab speakers than in the UAE. In Bahrain, for instance, 46% of the population is Bahraini, while other 4.7% are Arabs from other countries[4]. Although in Qatar only 14% are Qatari, there is another 18% of Arabs who live in the country, mainly Egyptians that work as pharmacists, taxi drivers, waiters, etc.[5] Outside the Gulf, in Egypt for instance, Egyptians account for 91% of the population. This makes Arabic the most spoken language in other Arab countries unlike in the UAE.

This dissertation's progression is as follows: This Introduction is followed by section II, which presents the historical review necessary to set our study. Section III contains the theoretical framework. Subsequently, there exists Section IV, which presents the methods to be used in this study. Section V presents the results and discussion and is succeeded by section VI, the conclusion. The main findings of the study is also presented in the Spanish language in the following section, *resumen*. Section VIII presents the bibliography and the final section, the appendix, contains the questionnaires and tables which were used in this study.

[4] Explore all countries: Bahrain. Retrieved from: https://www.cia.gov/the-world-factbook/countries/bahrain/

[5] Qatar population 2023. Retrieved from: https://worldpopulationreview.com/countries/qatar-population

II. Historical Review

The three Emirati phases of language development are explained in the historical analysis that follows. The "dynamic model" of postcolonial English developed by Schneider (2007) allowed three significant phases of linguistic development in the UAE to be pinpointed. When English was first introduced, there was the "foundation phase" (1809–1966), followed by the "exonormative stability period" (1966–2004), and finally the "normalization phase" (2004 till the present moment). Our main concern is how Modern Standard Arabic and Emirati Arabic have affected English during these three historical eras.

2.1. UAE's linguistic and social history and their early connections with England

English's globalization, and more especially the English spoken in the United Arab Emirates, can only be seen simultaneously and understood historically. As a result, we must create conceptual tools that are sensitive to historical context and that suggest and invite historical interpretation.

Diachrony and history are not the same thing. It is insufficient to define a chronology for the emergence of sociolinguistic traits and the placement of significant "dots" along that period (a problem in some work on language policy and language planning). According to history, time is occupied by human activity including actors who have different types of ties to one another and whose actions have an impact on others. (2011):137 (Blommaert J.). Knowing historical processes requires an awareness of power, hierarchy, authority, and normativity. Only then can we fully understand the globalization of English.

2.1.1. The foundation era: English introduction (1809-1966)

Around 220 years have passed since the UAE and Britain first became allies. The East India Company's trade with Iraq, Iran, and Oman, as well as the defense of British ships subject to the region, were the only three areas of British interest in the Gulf before the nineteenth century. These three areas were the shipping route between Bombay and Basra, which

connected India with Britain via Aleppo. The rest of the Gulf was unimportant to Britain; only the port of Muscat was of significance. All of that changed in 1797 when lower Gulf Arabs challenged British Indian ships. The marine toll-levying and raiding was seen as piracy and extortion by the British governments of Bombay and India. They suspected that these raids[6] were being carried out by the Qasimi, the royals of Sharjah and Ras al-Khaimah (today, they both are Emirates which make up the country), and Lingah. The British dispatched expeditions to various Qasimi ports between 1809 and 1819; this is referred to as the "foundation phase" of the language and was the time when the natives first encountered English. The ties between the UAE and England deepened when, in 1820, the British were able to impose the General Treaty, an anti-piracy deal made with individual Emirates that created the Trucial States"[7], nowadays known as the United Arab Emirates. The Emirates pledged to refrain from engaging with any foreign government other than the United Kingdom without first receiving permission from the British and to desist from ceding any land to any country other than the United Kingdom. In exchange, the Brits agreed to defend the land and shoreline against assault. Moreover, Oman, Bahrain, Kuwait, and Qatar were all defended by Britain beginning in 1829, 1861, and 1889, respectively (Ribeiro Daquila, 2022). These areas' laws lacked the tools necessary to protect their territories without outside assistance. These regulations actively sought out British assistance and defense. The kings respected their obligations as protégés after Britain adopted the position of protector. Only the leaders of the Trucial States sent sixty-four pleas for protection to the Resident between 1805 and 1861, together with twenty-one from Bahrain, twelve from Oman, and one from Kuwait. In exchange for protectorate status, two more treaties signed in 1888 and 1892 gave the British control over external relations.

These agreements, such as the 1853 Treaty of Perpetual Maritime Peace, brought about peace and prosperity along the coast and maintained a thriving trade in fine natural pearls up until the 1930s, when the pearl trade crashed, and the coastal towns suffered greatly. After finding oil in Iran (1908) and Bahrain (1932), the first oil company teams

[6] Onley J. (2009). UK and the Gulf Shaikhdoms, 1820–1971: The Politics of Safeguarding.

[7] UAE's Geography and History, 2022.

undertook geological studies in the United Arab Emirates. Following its 1947 withdrawal from India, Britain decided to stay in the Gulf as a result of such findings. During the Second World War, Britain aggressively encouraged Oman's growth as well as that of all the Gulf Shaikhdoms. There were only British-owned oil corporations operating in the Trucial States. The UK authorities urged the leaders of the Gulf to put their extra oil money to use in Britain. Also, they used planes to safeguard the Gulf and connect Britain to it. At Sharjah, there were bases for the Royal Air Force (RAF) and Imperial Airlines (presently British Airways) (UAE). The British Post Office established its first office in Dubai in 1941. As shown in Figures 2.1 and 2.2, British stamps featuring the British monarch were used on all mail sent from the Trucial States beginning in 1948:

Figure 2.1. Photo of a Mailbox in Dubai, the red color is still kept nowadays

Figure 2.2. Trucial States Stamps on an envelope of a letter to England

In an effort to strengthen Egyptian influence in the Gulf, the Egyptians began to promote Arabic music, cinema, literature, and newspapers in the middle of the 1950s. They also dispatched professors to the area. To combat imperialism, in 1953 Dubai's National Front was established (Onley, 2009). Anti-colonialists from all over the globe, even the United Nations General Assembly, began to increasingly criticize the rules of British authorities. The British government made the decision to give the rulers more authority in order to prevent that. The vulnerability that independence would entail, however, was dreaded by the ruling class.

2.1.2. The Exonormative stability (1966 -2004): English serving as the official language of government and education

Shaikh Zayed Bin Sultan Al Nahyan came to power in Abu Dhabi and the Trucial States in 1966. The British settlers remained in the region even after the Brits withdrew all of their troops two years later. Several members of the indigenous people were given jobs thanks to the oil and gas industry, which also sparked rapid development under the direction of foreign experts. The majority of the initial public works, educational, and medical directors were Brits, and British commanders headed the army units. British architects and engineers created all the infrastructure, bridges, and buildings as Gulf towns expanded. Most Gulf shaikhdoms' secondary education was developed by the British Council, which also gave hundreds of Gulf students scholarships for higher education in the UK.

Shaikh Zayed Bin Sultan Al Nahyan visited Poland in 1966. The decision to create a Federation coincided with the British decision, made in early 1968, to end its participation in the Trucial States. Both the sheikh of Abu Dhabi and the sheikh of Dubai, two of the most powerful Trucial Rulers, reached an agreement on this. Other Trucial Rulers were asked to join the Federation by the two. Bahrain and Qatar first appeared likely to join the Union, but both ultimately chose independence. The United Arab Emirates was legally created on December 2, 1971, when an agreement was signed by the leaders of six of the Emirates (Sharjah, Fujairah, Abu Dhabi, Dubai, Umm al-Quwain, and Ajman). Only the following year did Ra’s al-Khaimah, the seventh Emirate, accede to the new nation.

The preservation of the Gulf following the withdrawal was ensured by two actions taken by British Prime Minister Edward Heath. He first created a group to investigate the local defense issue. This organization advocated for encouraging America to increase the size of its Army Forces stationed in the Indian Ocean. Health also supplied defense by sending commanders from the UK to assist with army leadership and training. The political operative for Britain in the UAE was elevated to ambassador. Hundreds more British continued to work in the Emirates as policemen and government employees overseeing the airports, medical facilities, and recently established military.

Several are still present today. The Emirati ruler hired 172 UK loan personnel in 1988. (Onley J., page 24). Boyle (2012, p. 319) claims that the number of Britons living in the UAE increased from some thousands from Independence Day to over 100,000. The industries of gas and oil, aviation, transportation, and trading all used English as their primary language. The migrant workers from South Asia, who made up a sizable portion of the town, spoke English. The indigenous community saw that English was the language of modernization (Davidson, 2007). The Emiratis themselves quickly came to be a linguistic and cultural scarcity in their land as the number of immigrants increased. In 1990, Kuwait was invaded. Consequently, the proportion of Arabs that were not from the Gulf and had previously worked as professionals in the Gulf in industries including education, engineering, and medicine decreased from 72% in 1975 to 29% in 2002. (Fox, Mourtada-Sabbah, & Al-Mutawa, 2006). Since 1990, professionals from Bangladesh, Pakistan, and India have taken their place, ultimately making up 50% of the Gulf workforce (Fox et al., 2006), boosting the quantity of English speakers in the UAE. Treaties with England dating back more than a century have left their mark on Emirati Arabic. Emiratis were not familiarized with all the modernity and items that the English introduced, so they borrowed many terms from the language. Some examples include lift, light, glass, cycle (for bicycles), class, finish (which means to abandon the job or be laid off from your job), and other words, which are covered in more depth in section 2.2.4 of this study.

2.1.3. The nativization era (2004 until this point)

Schneider's (2007) most recent phase for the UAE using his "dynamic model" is known as nativization. As this time frame is still developing, it is not yet clearly defined. As stated by Karmani (2005), the UAE ruler gleefully upgraded and westernized the academic system, abandoning the archaic approach that used techniques like rote learning. Boyle (2012) asserts that the third stage of Schneider's "dynamic model" dates back to 2004 when leaders of the country accelerated the diversification of its economy through the development of nuclear power plants, high-tech and heavy industries, and luxury and cultural tourism. These initiatives caused the number of expatriates to rise quickly. They were over 3 million in 2005 and reached 7.2 million in 2010. (Al-Khouri, 2010).

2.2. Modern Standard Arabic and Emirati Arabic

All educated Arabic speakers speak Modern Standard Arabic (MSA), which is a universal language. It indicates a high grade of Arabic and is employed in publications, schools, newspapers, and television broadcasts (except talk-shows and sitcoms). W. Labov (1966) claimed that the language is dynamic and changes through time along with its culture. Each dialect has its own rules, and the dialects make up various colloquial varieties of the Arabic language. The Emirati Arabic, also known as Al Ramsa al Emiratia) (الرمسة االمارائية), is a dialect of Gulf Arabic that is used in the United Arab Emirates. MSA serves as the basis for Emirati Arabic, but it also draws elements from Persian, Urdu, Indian, and English.

The loss of grammatical case, a stricter word order, the evolution of a new grammatical mood system, the loss of the inflected passive voice, with the exception of a few relic varieties, restrictions on the use of the dual number, and (for the majority of varieties) the loss of the feminine plural are the main differences characteristics of spoken Arabic.

Both the Gulf area and the spoken Arabic dialect of southern Arabia are represented in Emirati Arabic. With borders bordering neighboring GCC states[8], in the north and south and extending from the Arabian Gulf coast in the west to the Gulf of Oman in the east, the UAE's geographic position has given rise to a wide range of phonetic variables in the dialect (Fardan H. & Kaabi, 2014). Many Semitic races lived in this area, according to evidence from excavations. So, as you walk about in various settlement zones, phonetic variance is evident. Although if migration from rural to urban sections of the nation has decreased over the past 40 years, there are still three basic divides that can be made: The Northern Emirates, which comprise Dubai, Sharjah, Ajman, Um Al-Quwain, and certain portions of Ras al-Khaimah; the East Coast, which includes Al-Fujairah and the surrounding area. And Abu Dhabi, which includes Al Ain and the Western Zone of Abu Dhabi and the Islands. As an illustration, the

[8] Gulf Cooperation Council: a group of six countries in the Persian Gulf: Bahrain, Kuwait, Qatar, Oman, Saudi Arabia, and the United Arab Emirates. GCC countries make decisions together on trade, military spending, etc. Retrieved from Cambridge Dictionary, 2022: https://dictionary.cambridge.org/dictionary/english/gcc

spoken variables for the negative particle is *mesh* in Abu Dhabi, *mob* in the Northern Emirates, and *ma* in the East Coast, Fujairah, and surrounding regions.

Also, as a reflection of the demography of the nation, Emirati Arabic has undergone several modifications since the United Arab Emirates were founded. For instance, many Arabs and people of other countries who disembarked in the UAE in search of employment found refuge there. A standardized means of communication became necessary as a result of the influx of international vernaculars. As a result, different Arabic dialects and several borrowed terms from other languages were incorporated into Emirati Arabic.

In Arabic we read and write from right to left, unlike Roman languages and English, which are written from left to right. The Arabic Alphabet consists of 28 letters: 25 consonants and 3 long vowels. For didactical reasons we will separate these 28 letters in three groups:

Group 1: 18 sounds equal or very close to English sounds, in Table 2.1. below.

Group 2: 3 sounds which do not occur in English, but are found in other European languages.

Group 3: 7 sounds which are exclusive to the Arabic language.

Groups 2 and 3 will be analyzed in the following section.

Table 2.1. Group 1: Sounds Equal or very Similar to English Sounds

Arabic letter	English Transliteration	Phonological traits	Examples
ب	b	/b/ sound	as in **b**ull, ba**b**y
د	d	/d/ sound	as in **d**uck, a**d**ult
ذ	dh	Voiced **th** sound	as in mo**th**er, **th**ere
ف	f	/f/ sound	as in **f**ine, **f**or

ه	h	/h/ sound, but it is never dropped[9]	as in **h**orse, **h**ello
ج	j	/ʒ/ or /g/ sound	as in **j**eans (in most Arab countries), but also as in /**g**oat/ [10]
ك	k	/k/ sound	as in **c**at, **k**ey; but less aspired
ل	L	/l/ sound	as in **l**aw, ca**ll**
م	m	/m/ sound	as in **m**om, **my**
ن	n	/n/ sound	as in **n**oon, a**nn**ual
س	s	/s/ sound	as in **s**ound, **s**on; but never /z/as in de**s**ert
ش	sh	/ʃ/ sound	as in **sh**oe, **sh**ine
ت	t	/t/ sound	as in **t**art, **t**oe
ث	th	/θ/ sound	as in **th**ank, **th**ink (not as in **th**ese, see dh above)
ر	r	/r/ sound	Trilled r as in per**o** in Spanish, or in per**ò** in Catalan and Italian; like the r pronounced by Scottish people
و	w	/u:/ sound	as in p**oo**l, m**oo**n
ي	y	/i:/ sound	as in b**ee**, t**ea**
ز	z	/z/ sound	as in **z**oo, bu**zz**

Phonetic variations in the Emirati Arabic:

[9] In English the /h/ sound of the objects *him* and *her* are not pronounced in informal conversations.

[10] The sound /j/ in Emirati has two more allophones: sometimes it is pronounced as in **y**oung, (the word new in MSA jadid, is pronounced yayid); or as in goat (the word heart in MSA qalb, is pronounced galb)

Many words in Emirati Arabic replace the sound of **k** ك in MSA by **ch** ج , we can find in Emirati Arabic words such as **ch**alb **جلب** , (meaning dog) spelt **k**alb **كلب** in MSA; chabid in Emirati (meaning liver) spelt **k**abid **كبد** in MSA.

Another common replacement is the letter **q** by the sound **j or g,** in Emirati we have the words **j**areeb and **g**ahua, meaning respectively *near* and *coffee*. The MSA words would be **q**areeb and **q**ahua) **قريب، قهوة**). The presence of the allophone[11] **g** in Emirati Arabic facilitates English pronunciation as Emiratis do not have to struggle to pronounce words like **g**oat and **g**et.

The typical Allophone for the sound **j** in MSA is **y,** that is, the word for *chicken* in MSA is de**j**a**j** (**دجاج**) while in Emirati it is d**y**a**y** (**دياي**) / the adjective hungry is in MSA **j**u3an **)جوعان**(, while in Emirati it becomes **y**u3an **)يوعان(**.

2.2.1. Arabizy

Throughout social media and messaging platforms, the casual writing style arabizy or arabizi is utilized to write Arabic words with an English spelling. The English language invaded the majority of Arab nations throughout the 1990s, if not all of them, through a variety of technical tools and domains, including online messaging, short message service (SMS), emails, and mobile phones (Warschauer, Said, & Zohry, 2002). Non-Latin scripts were not widely supported at the time, making the usage of Latin script and/or the English language the sole practical means of communication. Arabic utilizes numerals to represent Arabic letters since there is no English equivalent. Following the Alramsa Institute's approach, we shall only employ numbers 3 and 7 in this study, but other Arabizy numbers are shown in Table 2.2. for reference:

[11] one of two or more variants of the same phoneme; for instance, the aspirated \p\ in *pin* and the unaspirated \p\ in *spin* are allophones of the phoneme \p\

Table 2.2. Numbers Used in Arabizi

Arabic letter	Number /our study	English transliteration	Example	Meaning
أ [12]	2 / A	A	2ktib, 2qul	I write, I say
غ	‘3 /Gh	Gh	‘3alee, u‘3neea	Expensive, song
خ [13]	5/ kh	Kh	5amsa, 5air	Five, fine

Table 3. Group 3: Sounds which are unique to Arabic.

Arabic letter	Number / our study	English transliteration	Example	Meaning
ع [14] voiced pharyngeal fricative	3 / 3	A	3ain, 3la	Eye, on
ح devoiced pharyngeal fricative	7 / 7	H	Ba7ar, 7abibi	Sea, my love
ط voiced velarized dento-alveolar stop	6 / T	T	6aweel, 6aeeb	Long/tall, nice
ظ voiced velarized interdental fricative	‘6 / Dh	Dh	‘6uroof, Abu ‘6bi	Circumstances, Abu Dhabi

[12] The letter Alif ا is a long /a:/ sound, as in p**al**m, but when it takes the symbol hamza (ء) over (أ) or under it (إ), it is pronounced as a guttural stop sound and there is no equivalent sound in English.

[13] Kh is pronounced like the ch in German, as in ***ach**t, ko**ch**en;* and like the Spanish *j*, as in ***J**uan.*

[14] Close to the Parisian French r, as in Pa**r**is, Ma**r**ie. It is actually a more guttural scraping sound.

ق voiceless uvular stop	8 / Q	Q	Ma38ool, 8ool	Possible, say
ص voiceless velarized alveolar fricative	9 / S	S	9aif, 9aeeaad	Summer, fisherman
ض[15] voiced velarized dento-alveolar stop	‘9 / D	D	‘9fda3, ‘9id	Frog, against

Both the Emirati Arabic and the MSA lack the phonemes /p/ and /v/, which may make it difficult for some Arabic speakers to pronounce these sounds well in English. We will analyze these phonetical traits in our experiment later in this paper.

Arabic and Inglizee (which is the Arabic name for English) were combined to create the term Arabizy. Even though the Internet and technological equipment have been upgradedto accept Arabic script, many Arabic speakers still use Arabizy (Attwa, 2012).

2.2.1.1. Arabizy from a sociolinguistic dimension

Arabizy is quite common among young Arabic speakers of the Egyptian and of the Darija Arabic, namely Moroccans, Tunisians, and Algerians. These young speakers prefer to write using Arabizy rather than the Arabic script (Allehaiby, 2013). In the Emirates, however, most young Emiratis are not so used to Arabizy and prefer to use the Arabic script or to write straight in English.

[15] In Emirati Arabic the sound of the velar consonant ض is pronounced as the interdental consonant ظ

Arabizy users have also expressed how this linguistic system, which supports both upper- and lowercase letters, enables them to express themselves in a number of ways that would be otherwise difficult if they were to utilize the Arabic alphabet. They see the advantage in being able to express a variety of feelings that are difficult to control in classical Arabic, such as yelling and tranquility. Hence, messaging might be described as being clearer and simpler to comprehend and transmit (Yaghan, 2008).

According to a study (Al-Khatib, M. A., Sabbah, E. H., 2008) that looked at the usage of Arabizy and the preferred language for SMS messages among Jordanian university students, 61% of them typically utilized it. Of these, 39% wrote words and phrases in Arabizy and 54% used it to denote English vocabulary.

A similar study was carried out in Palestine with other 3000 eighth grader (Al-Shaer, I. M. R., 2016); 89% of those polled stated they have access to the Internet at school, while 70% said they have it at home. 61% of the students said they had never used Arabizy, whereas 39% admitted to using it.

All Emiratis over the age of 38 who responded to the question on whether they would rather message acquaintances using English, Arabic script, or Arabizy (see Appendix J) claimed to use Arabic script, and several others mentioned that they send messages in EmiratiArabic rather than MSA. Just two of the male participants admitted to occasionally texting a term that is not available in Arabic, such the term "already," in English. More than 90% of theyoung participants, who were between the ages of 18 and 20, also stated that they prefer texting in Emirati Arabic and occasionally use slang or trendy terms in English. These results are consistent with Kennetz & Carroll's (2018) finding that 63% of respondents primarily selected Arabic to communicate with their Arabic speaking friends and 30% said to use a mixof Arabic with some words in English.

The Arabic language and Arab identity are inextricably linked. Arabs, who share the same nation regardless of ethnicity, tribe, or religion, speak Arabic as their first language. In reality, Arab nationalism theorists are in complete accord about the importance of the language (Barakat, 1993). Arabic was picked by all Emiratis when asked what language they use to read about religion, pray, and converse about religion (Kennetz & Carroll, 2018).

2.2.2. A new approach: Teaching Emirati Arabic

Arabic dialects vary from country to country and even from region to region and are virtually unintelligible at times. A macro division of the main dialects would be:

- Levantine Arabic: a broad variety of Arabic that includes parts of Lebanon, Jordan, Syria, Palestine, and Israel.
- Maghrebi Arabic (or Darija): It includes Moroccan, Algerian, Tunisian, and Libyan.
- Egyptian Arabic is regarded as the "second dialect" that is most generally spoken and understood. Egypt is where it's spoken.

• Gulf Arabic: this dialect is spoken in Kuwait, Bahrain, the United Arab Emirates, Qatar, sections of eastern Saudi Arabia, southern Iraq, southern Iran, and northern Oman around the Persian Gulf coastlines.

The problem of Arabic language centers in the UAE and in the Arab world in general is that most of them only teach Modern Standard Arabic, instead of or in conjunction with the dialect. Teaching the dialect would facilitate the interaction between expats and locals. We researched schools specialized in Gulf Arabic in the UAE and we came across an online platform www.gulfarabic.com, which uses videos from Emirati politicians' speeches, TVshows and interviews to teach Gulf Arabic through the Internet. They teach Gulf Arabic in a broad way, comprising the dialects from the UAE, Oman, Qatar, Kuwait, Bahrain, Saudi Arabia,and Iraq. The vocabulary in these countries can, however, vary a lot. For instance, the word for *my friend* in MSA is *Sadiqee*, in Emirati Arabic it is r*abi3ee*, whereas in Saudi Arabic it becomes *khawee* (it literally means, my brother), in Kuwaiti Arabic it is *irfijee* and so on. Thereis only one traditional school (in contrast to online learning) which deals with Gulf dialect, theGAP (Gulf Arabic Program) school, which was founded in 2001 in Al Ain[16] and teaches Arabic to people who want to migrate and work in the Arabian Gulf. Native Arabic speakers in the area teach the language and idioms they themselves use on a daily basis, within a context

[16] Al Ain is the fourth biggest city in the UAE and belongs to the Abu Dhabi Emirate. It is 140 km away from Dubai. Retrieved from https://www.odyfolioemirates.com/en/al-ain/history

that instructs learners to communicate the way Arabs would do. And besides, students in GAP learn write as well as to read using Modern Standard Arabic (MSA)[17]. When it comes to Emirati Arabic, the most prominent center is Alramsa Institute, whose goal is to serve their learners to speak Emirati Arabic and interact with the Emirati community. Founded in June 2014, in Dubai, it is the only center specialized in Emirati Arabic. Besides the classes *in loco*, the center also offers courses to companies, restaurants and any establishments willing to provide Emirati Arabic to their staff. Alramsa is accredited by the Knowledge and Human Development Authority in Dubai. In 2019 the founder of Alramsa, Abdullah Alkaabi, published the first translation of "the Little Prince" into Emirati Arabic. Many Emiratis frown upon such publications as they believe only MSA should be used in literary works. Alramsa, instead, sees the dialect as a bridge from the dialect to the MSA; as kids are familiar with the dialect, it can in fact promote literacy in primary school. Reading in MSA is unnatural to the Arabi child, it is as if he/ she was reading in a foreign language. Alramsa cooperation to this study was fundamental to carry out an accurate analysis of Emirati Arabic.

In a recent study (Ribeiro Daquila, 2020) Emirati children, were shown two versions of the same chapter of the book the Little Prince: one in MSA and another in Emirati Arabic. it was evidenced that 88% of the kids chose the Emirati version to read, the language they feel comfortable with and speak on a daily basis.

2.2.3. The mark of English on Arabic dialects

Not even one single person can dispute the fact that English is now an international language. At the start of the 19th century there was the expansion of the British colonies and in the 20th century, there was the advent of American financial power. Both events are responsible for the current state of English. The linguist David Crystal (2003) listed a number of factors that make English the world language. First off, English is widely regarded as the language of international trade and business; this would be a pragmatic justification. English evolved to the language of science for both intellectual and pragmatical factors, for instance,

[17] Information retrieved from email exchanges with the school and from the school's website: https://gapschool.net/

during seminars at universities and technological systems. In addition, English is the most widely used language for travel, tourism, and popular music. Crystal believes that these components prevent other languages from retaining their values without the influence of English.

After colonialism, Britain and France left linguistic traces throughout the Arab world. The Arab nations began a process of Arabization after achieving their independence in an effort to establish an Arab identity. Due to demands from the economy and the tourism industry, both French and English keep being very much used today. Nonetheless, these languages are not linked with narrow-mindedness and therefore, they are more likely to provide employment in Arab lands. Including Tunisia, a country ruled by France for seventy five years, where English is favored over French in the tourism business (Spolsky, 2004: 135). In Egypt and primarily in Gulf countries in general, English is also widely used. This may help to explain why more and more parents are sending their kids to foreign schools in the UAE every year. According to the KHDA the 32,911 Emiratis were enrolled in the private schools in Dubai in the 2019/2020 school year, this figure was less than 30.000 in the previous year.[18] Most of these Emiratis attend American or British schools.

We can notice nowadays in the mass media a growing tendency for using words or even whole cartoons and adverts in English. In the convention "The language of Arab Children in the Globalization Era", the ISESCO[19] Secretary-General Abdel Aziz Al-Twigrii gave a speech on the fact that the 'commercial world' corrupts their language, notably among children. most Arabs nowadays are adolescents, a fact that might result in linguistic variances (Bassiouney, 2009). More than 80% of the children would rather use English, according to a recent survey (Al-hussien & Belhiah, 2016) that included students in the 8th and 9th grades, parents, and instructors. Half of the pupils claimed that they found it simpler to convey their feelings in English. 98,6% of the respondents said they preferred using the English language on the

[18] KHDA stands for knowledge and Human development authority. KHDA is in charge of inspecting all private schools in the city of Dubai. *Dubai's education landscape*. Retrieved from www.khda.gov.ae

[19] ISESCO stands for Islamic Educational, Scientific and Cultural Organization.

internet. Arabic was only a dominant language when used to communicate with friends (54%), and with family (90.7%).

Nonetheless, Standard Arabic is highly esteemed and seen as the tongue of the sophisticated culture. The Qur'an is only authoritative in Fusha, the revelation language. Any alteration to the holy book would be unacceptable by Muslims. The use of regional Arabic dialects must not change the language of the holy book. Hence, literary Arabic has the function to preserve the classical language in addition to functioning as a symbol of the Arab world. Also, in Kennetz & Carroll's study (2018) on how Emiratis connect with their families found that parents prefer Arabic to speak to their children. They also liked to speak Arabic with their spouses and wives. Nevertheless, 13% claimed to use a mix of English and Arabic. Given that Emirati males are legally permitted to marry women from any nation, this may be because some of them are married to Emirati women. Yet, if an Emirati woman marries a non-Emirati, they retain their nationality. Just 15% of siblings converse with one another in Arabic and English, with the remaining 85% speaking primarily Arabic. The interaction between parents and their kids is at 33%; the rising use of English and Arabic may be a result of the increased employment of English language in primary and secondary education, which has led to students bringing home homework in English, as well as the English-speaking maids that families have hired.

2.2.4. Arabic lexical components in English and code-switching

The employment of two or more languages in a single discourse in an alternate or mixed manner is known as code-switching. Among Emiratis, code-switching is an extremely prevalent occurrence. Both when an autochthonous speaks English while using Arabic lexical elements or when he/she speaks Emirati Arabic and use words in English. On the former, this chapter will concentrate. This language process occurs for many different causes. One of them may be brought on by the absence of counterparts in English or might represent the affectionate attachment of the speaker to their mother tongue, in this instance, the Arabic language. *Wallah, in sha' Allah*, and *ma Sha' Allah* are three often used phrases in Arabic in general as well as Emirati Arabic (Susanto, 2006). These three lexical elements will be examined below:

Wallah, I did not let on your secret.

The use of *wallah* instead of *I swear to Lord.* As saying Lord or God differs from using the original term from the Qur'an, this code-switching can be explained by the speaker's emotional connection to *Allah,* the God of the Qur'an. As we mentioned before, any translations of the sacred book are unacceptable by the Muslims.

In sha' Allah I will pass my driving test.

This common phrase used in the Arab world has two possible meanings: it may mean 'God willing' / 'If God wills' as we have in the aforementioned sentence. And the second meaning:

In sha' Allah we will meet at the weekend.

A very courteous way to refuse in Arab culture is by using *in sha' Allah*. As a result, there is a high likelihood that an Arab will not carry out what he says if you suggest anything to him and he responds *in sha' Allah*.

Ma sha' Allah your new car is beautiful!

The use of *ma sha' Allah* instead of explaining this very complex Arabic expression, which closest translation would be "God has wanted it to be so." *Ma sha' Allah* is used to express praise and to avert the evil eye. So, our sentence would mean: Wow, congratulations!I am not giving you the evil eye; this house looks fabulous! Here we can infer both an affection with the L1 - by the presence of Allah - and language economy, as the expression in Arabic is much more concise in relation to English. in order to praise someone or someone's possession in the Emirates, one has to use ma sha' Allah either to start or finish the sentence. Comparatively, this expression is not as much used in Darija Arabic as it is in the UAE.

Code-switching also depends on social class and national identity. Educated speaker tend to shift to a more formal language when conversing about religion, economy, or politics. Solidarity-building is another sociolinguistic justification for code switching (Gumperz, 1976). Arabic speakers in Jordan frequently switch to English to accentuate or explain their words. Flawlessly as a non-Arab individual may speak Arabic, he/she will switch to English to make

sure there is intelligibility or even to acquire the respect of the non-Arab interlocutor (Abu Melhim 1991: 242). Another research examined conversations between students from Egypt and Jordan who switched between the two languages, incorporating Jordanian Arabic into Egyptian Arabic and vice versa (Almahmoud, 2021). AlMahmoud's study from 2021 is more in accordance with our present investigation since we concentrate either on interactions between Emiratis or between Emiratis and other Arabic speakers, as seen in Appendix J.

Code-switching is very much used as a sign of language efficiency, when an Emirati uses, for instance, technological words which are frequent employed in English, such as the (cell phone) charger, instead of using the Arabic counterpart **شاحن** (shaa7in). The Emirati would frequently say charger, because when he goes to any cell phone store, they will most likely have to express themselves in English. For example, all of the telecommunication stores, all the establishments at the food court, posters and billboards at Marina Mall (Dubai), Mall of the Emirates (Dubai), Yas Mall (Abu Dhabi) and Dubai Mall are in English, and there are virtually any employees who can speak Arabic there (Ribeiro Daquila, 2020).

Nowadays, due to technological innovations and the employment of English as a *lingua franca* in UAE's major cities, there has been an increase in the usage of English words and verbs in Emirati Arabic. All the following words are commonly found in Emirati Arabic:

We could find: business, charger, glass, same, metro, good luck, USB, already, online, nice , هايس hi , gym جيم , bye باي , tour تور , yes and private, etc.

An instance of an extract for beginners extracted form an Emirati Arabic book of Alramsa institute:

مريم: اوكي، يالله نسير الفود كورت بعد االجتماع على طول

Miryam: Alright, yallah neseer al food court b3ad el ejtema3 3alla tool.

Miryam: Alright, Let us hit the food court just after the gathering.

Below are instances of English verbs in Emirati Arabic, which keep the same conjugation rules as in Arabic:

cancel / check / download / park / finish (meaning quitting work or getting the sack)

E.g.: (hu) yabark hunak. (He) parks there. We have the prefix y*a*- which is used for the third person masculine singular of any Arabic verb. Depending on the speaker, he will pronounce *yabark*, as there is no letter *p* in Arabic, Arabs use *b* instead; other speakers who possess better knowledge in English would say y*apark*.

There exist several English terms that relate with mechanics borrowed from an Indian language, such as "draywel," which is an altered way to pronounce the English word "driver," and "motar," — an altered way to pronounce the term "motor" — for "vehicle,". (Fardan H. & Kaabi, 2014).

2.2.5. The sociolinguistics of globalization

Originally the word globalization was exclusively related to economics and world trade. Nevertheless, nowadays we are also looking at politics, societies, and cultures. Globalization is a cultural phenomenon which has been challenging identities and cultures around the world. With the increase in migration into the UAE, mainly from India and Pakistan (Snoj, 2019), both countries having English as their official languages, the increase in digital media, the former stable social constructs of culture, homeland, and identity are all changing (Pennycook, 2010). Not only historical facts account for the preference of English in the UAE as the lingua franca, but also recent agreements[20] between England and the UAE. Forinstance, in September 2004 the British University opened in Dubai. This university has partnerships with four universities in the UK. All BUiD Masters programs have accreditation eligibility from UAE Ministry of Higher Education and Scientific Research. Two important events occurred in 2006, in February, The Abu Dhabi Tourist Authority's first regional office was opened in London by Shaikh Abdullah Bin Zayed Al Nahyan, Minister of Information andCulture, and on March 18 the UAE and the UK struck a deal for intelligence cooperation to fight money laundering and terrorism funding. In order to strengthen bilateral ties between the two nations, Prince Charles and his wife Camilla visited the UAE on February 28 and the United Arab Emirates on October 11 of that same year. Gordon Brown, the British Prime

[20] Retrieved from Gulfnews, April 27, 2013. *A look at the history of deep relations between the UAE and the United Kingdom,* https://gulfnews.com/uae/government/timeline-of-uae-and-united-kingdom-ties-1.1175874

Minister, and Shaikh Mohammad Bin Rashid Al Maktoum, Vice-President and Prime Minister of the United Arab Emirates and Ruler of Dubai, emphasized the necessity of coordinating international efforts to settle political disputes around the globe, particularly in the Middle East, which is considered to be the most tense region, putting the formal discussions in London on the line for regional and global peace. Two significant occasions stand out from 2008. The first occurred on May 15 in Abu Dhabi, when the UAE and UK inked a deal on cooperation in peaceful nuclear energy. Next, on November 3, Gordon Brown, the prime minister of the United Kingdom, paid a visit to Dubai to promote trade between the two nations.

According to a release from the UAE Ministry of Economy, the UK and the UAE signed a bilateral agreement on April 8th, 2009, with the intention of increasing trade as well as fortifying economic and technical connections. His Highness Shaikh Mohammad Bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, pays an official visit to Britain on November 22 of the same year. He spoke with Prime Minister Gordon Brown and the late Queen Elizabeth II about ways to deepen bilateral relations and collaboration.

In 2010, three occasions distinguished notice. British Prime Minister David Cameron traveled to the United Arab Emirates on June 11. He met with UAE officials and talked about measures to strengthen ties. Queen Elizabeth II was lavishly welcomed into the United Arab Emirates on November 24 with a 21-gun salute. She had been to Abu Dhabi's Zayed Grand Mosque during her stay. Thirdly, on November 25th, the UAE and the UK reaffirmed their relationship by signing the Abu Dhabi proclamation.

2011 saw two crucial gatherings relating to the Navy and the Armed Services. A series of amphibious and land-based exercises named Sea Khanjar with the UAE armed forces were inaugurated on June 29 by five Royal Navy cruisers. On October 6, British Prime Minister David Cameron met with Shaikh Mohammad Bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, in London to discuss matters of common ground and recent events on the national and international scene.

The Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, General Shaikh Mohammad Bin Zayed Al Nahyan, and UK Defense Secretary Philip

Hammond met in Abu Dhabi on March 12, 2012. They held discussions to further partnerships, particularly in the military and defense sectors. Subsequently, on November 6, when visiting the UAE, British Prime Minister David Cameron had a meeting with President His Highness Shaikh Khalifa Bin Zayed Al Nahyan.

The "Memorandum of Guidance" (MoG) between the Commercial Court of England and Wales and the Dubai International Financial Centre (DIFC) Courts was signed in London on January 24 of the following year. The UAE and UK addressed the new higher education bridges on March 5 at the British Council's "Going Global" conference held at the Dubai World Trade Center two months later. Most recently, in February 2019, Britain and the UAE began discussing a trade agreement after Brexit. "The UAE is a crucial worldwide commercial partner for the UK," a representative for the Department for International Trade (DIT) told Arabian Business.[21]

BBC Arabic transmission debuted on radio in 1938 in the UAE (BBC, 2007). In order to serve the expanding non-Arab communities in the UAE, Dubai FM 92, the first dedicated radio station in English, was launched in 1972, the same year the UAE was created (Hilotin, 2002). In 1972, television was also introduced when the Abu Dhabi station became the United Arab Emirates Television Service, which aired on channels 10 and 2. A combination of mostly Arabic and some English programs was available on both stations. The same year, channel 33, a station situated in Dubai that broadcast predominantly English-language overseas programming, was established (Hilotin,2002). According to a poll of 248 Emirati respondents (Kennetz & Carroll, 2018), when asked what language the television programs were in, Arabic garnered 38% of the responses, whereas both Arabic and English appeared next at 36%, and 24% reported watching television programs exclusively in English. Nowadays, even the Emiratis channel, such as Sama Channel, Dubai TV and Abu Dhabi TV, broadcast some programs in English, such as culinary and fashion programs, movies and entertaining material in English with subtitles in Modern Standard Arabic. In 1978 was published the first Khaleej

[21] Arabian Business Global, online newspaper. Tuesday 12 February 2019 08:16 AM. Retrieved from https://www.arabianbusiness.com/politics-economics/413046-britain-starts-talks-with-uae-for-post-brexit-trade-deal

Times, the first English language daily newspaper in the country. These facts prove what was stated by Findlow (2006) and Clarke (2007:584) that the UAE have accommodated globalization by incorporating English within its linguistic policy and regarding it as the language of business, modernity, and internationalism while Arabic is downgraded as the language of religion, tradition, and localism.

As we have seen previously, this historically demonstrated bond between Britain and the UAE influenced the language: code-switching is a fact in the UAE. We intend to find out if this code-switching, that is, Emiratis add English words into Emirati Arabic and vice versa, may lead to language shift. When speakers are compelled to use another language in other contexts of their lives, language shift begins to occur beyond the family unit. This is the case of English for Emiratis when they go shopping, for instance. We will compare the number of English words used by teenager with the number used by adults over 38 years old. English has been positioned as a "killer" language when in contact with another language (Coleman 2016, Kennetz & Carroll, 2018). In the following section (2.2.6.) we will be dealing in detail with the three factors that lead to language shift.

2.2.6. Is English a threat to the Arabic diglossia in the UAE?

Languages from strong nations have threatened indigenous languages all over the world, and this has led to discussion on language shift taking up a large portion of the literature in the subject of language policy and planning.

English has a significant role in the Emirates today, as we have seen in the earlier sections. We will go through the population and migration patterns, educational attainment, and prestige characteristics as they pertain to the three language shift factors described by Fasold (1993). Arabic and English are now treated fairly equally under the new policy changes (Carroll & Combs, 2016; Cook, 2017; Al-Hussein & Gitsaki, 2017). Emiratis make up only 10% of the entire population, therefore they must coexist with foreign workers from partly English-speaking nations like the Philippines, Sri Lanka, and India as well as with countries which speak English such as the United Kingdom and the USA. English has become a lingua franca at 'all levels of society' (Randall & Samimi, 2010). Regarding the school, attending a private school in the Gulf equates to learning more English, which improves social standing and professional

opportunities. Several surveys and publications demonstrate that parents in the UAE clearly prefer to enroll their children in private schools where the English language proficiency is higher (KHDA, 2011; Kenaid, 2011; Nazzal, 2014; Pennington, 2015; Al-Hussein & Gitsaki, 2017). The third factor that influences language shift, linguistic prestige, is strongly tied to these social standing and job opportunities. Also, English can now be used in language admissions exams like the IELTS to grant or deny Emirati students entry to a college degree (Al-Hussein & Gitsaki, 2017). English competence, not Arabic, is needed to enroll in one of the three prestigious government institutions in the United Arab Emirates. While some government colleges need an IELTS score of 5.0, other overseas institutions demand scores between 6.5 and 7.5. We may claim that the UAE has all the favorable conditions necessary for language shift in light of the three elements associated to language shift described by Fasold (1993): population and migration patterns, educational attainment, and prestige factors.

2.2.7. Possible effects of Arabic prepositions in Emirati English

Prepositions are translated only into their primary meaning in English in the vast majority of English-language literature for Arabs, which is a gigantic error. These prepositions are:

Table 2.3. Prepositions in Arabic, transliteration in Arabic, and the most common translation in English

Prepositions	Transliteration in Arabic	Translation
في	fi	in
إلى	ilā	to or towards
على	3lā	on
من	min	from
ب	bi	in or with

Nonetheless, not all of these prepositions have the same translations. Because of this, it's common to run into Emiratis and other Arabs who have trouble using the correct English prepositions. Below there are a few instances:

When referring to “I eat at a restaurant”, Emiratis actually say in English: I eat from the restaurant. This occurs because in Arabic the preposition *min* (from) is employed instead:

أكل **من** المطعم. Akil **min** almat3m. (I eat from the restaurant)

Or “He is married **from** her”, as opposed to saying: “he is married to her”.

هو متزوج منها Hwa mitazawij **min**ha. (He is married from her)

When Emiratis mean "He is on his way," they frequently say "He is in his way.". This occurs since the preposition fi is typically rendered as in, as previously discussed.

هو **في** الدرب. Hwa **fi** darb. (He is on his way)

There are instances where a preposition is present in Arabic but not in English.

When speaking English, Emiratis would state: the bookshop is close **from** the university, when they really want to say is: the bookshop is close to the pharmacy.

المكتبة قريبة **من** الصيدلية. Almaktabat qariban min aSSaydalya. (Literally, the translation is: The bookstore is close **from** the phramacy)

The majority of students had trouble in rendering from L1 (Emirati Arabic) into L2 (English), when rendering the preposition *until* - 7ata in MSA, many times substituted by the preposition **لين** layn in Emirati - according to a dissertation for the Master's of Education program at the British University in Dubai (Ghwaileh, A., 2014). This dissertation examines errors that result from the negative transfer from Emirati Arabic and MSA while writing in English:

تمّيت بالعزبة **لين** الفجر Tamit biall3izba layn alfajir. (I remained on the farm till the daybreak.) In Emirati Arabic, the majority of respondents wrote the following translation:

I remained in the farm to the daybreak.

Then, these participants were asked to render into English the identical statement on the following day, now in MSA edition, though:

تميت بالعزبة حتى الفجر. Tamit biall3izba 7ata alfajir.

These participants made the identical error in the dialect-version statement that they had previously made. As a result of lack of training and inadequate understanding / input about the usage of prepositions, these Emiratis translate both colloquial and standard Arabic into English using the wrong prepositions. Our research is consistent with Ghwaileh's findings, since we also corroborated these errors and those involving additional prepositions, as we shall detail in the Results and Discussion session.

In our questionnaire (see appendix D) we could find out problems with the preposition *for* in the following sentences:

من زمان وأنا أبا هالشي min zaman wa ana aba haalshy (I've been wanting this for a long time.)

من زمان ما شفتك min zaman ma shiftak (long time no see)

The preposition **من** (min) is mostly translated as "from", 92% of respondents rendered this sentence as "I want / I am desiring this from a long time. Not one single respondent employed the present perfect continuous to render this sentence, instead they employed either the present continuous or simple present. In the case of "long time no see", it was mainly translated as "from a long time I don't see you".

8 ذي الشغل من انتهي antahi min al3mal fi 8.(I finish work at 8)

انتريني itriiny (wait **for** me)

In the case of sentence above "I finish work at 8" over 90% responded: I finish **from** work at 8, as the verb in Arabic is antahi **min** (I finish **from**). As for following sentence**,** most students translated it as "wait me", as there is no preposition in its Arabic version.

2.2.8. Possible interference of Arabic verb tenses in Emirati English and loanverbs from English

One very studied and discussed theme by linguists is Arabic verb tenses. Unlike English and neo-Latin languages, Arabic use some noun forms which expresses the ideas of tenses.

Besides the aforementioned differences, Arabic has less tenses when compared to English, for instance "***Ana akul***", literally means "**I** eat", but it can also mean "I am eating". Notice that the prefix **a-** indicates first person singular present. Ana akal**t**, in the dialect can mean "**I** / **you** ate, **I** was /**you** were eating, or **I** / you have eaten"; the suffix -t indicates an action in the past performed either by the first person singular or second person singular masculine; notice the absence of a pure conditional tense as well, as the past tense in dialects and in MSA can be translated into three different tenses in English (and even more). Such differences cause Arabs to err when speaking English.

Some verbs that were mentioned by our participants as part of their daily vocabulary while speaking Emirati Arabic were the verbs *charge* (the laptop, the mobile), *cancel, check and finish,* which were perfectly adapted to the Arabic conjugation and verb tenses. However, the verb finish is applied only to mean to be fired or to quit a job: (**Ana**) **a**finish (**I** am quitting my job). In the past we would have: finishe**t**. (**I** quit my job). In order to express the idea of being dismissed, the plural subject hum (they) is used: (hum) finish**oony** (**they** fired **me**.); finish**ooha** (**they** fired **her**)

2.3. The forerunner of schools: The Mutawa and the Katateeb

The Gulf region has used the Al Katateeb educational system hundreds of years ago. In the UAE, the concept of Mutawa was widespread in what was called then "trucial sheikhdoms". The word Mutawa refers to someone who initiated himself to conduct good deeds by helping others (Alhebsi, A. et al., 2015). Due to his expertise and occupation, The Mutawa maintained a superior standing among the populace. He was regarded as the region's smartest individual. Therefore, not only was his role restricted to teaching children, but it was also to advise people and even judge in case of conflicts among them. He also had the power to celebrate marriages and evaluate people's commitment to religion. People used to send their children, especially boys, to the Mutawa to teach them and raise them up as due the moral and social expectations that spread on those days (Shaikh, 2008). Teaching children how to read and recite the holy Quran was the priority of the Mutawa. In some cases, the Mutawa taught basic Arabic grammar and Arabic Classics, depending on his personal knowledge. Repetition and mimicry were the only didactic methods used back then. Children gained new vocabulary by copying the Mutawa's speech and reciting the words after him.

Children gained new vocabulary by copying the Mutawa's speech and reciting after him. The Mutawa had the absolute authority over the child, and his authority outweighed the authority of the parents. To control tardiness, frequent absence, ill-behavior, or bad academic performance, the Mutawa used to hit the children on their hand and feet. In case of extreme violations, sometimes the child was tied to a trunk of a tree under the sun (Al-sanhouri, 2016, p.72). The students who succeeded in memorizing the Holy Quran were celebrated in a festival called “Al Tawmenia” (Shaikh, 2008) as if they obtained their high-school diploma and this indicated how cautious the UAE community was regarding the religious awareness in the offspring. The Mutawa used to teach in his house or in the mosque; however, wealthy communities built Al Katateeb, a school where children used to go on a daily basis. There were also female Mutawas.

2.3.1. The UAE's early education system

Al Tatweerya School in Sharjah and Al-Ahmadiya School in Dubai brought formal education as we know it nowadays to the United Arab Emirates in 1907 and 1912, respectively (Davidson, 2008; Alhebsi, A. et al., 2015). This system of education was greatly impacted by Arabian reforms, which championed Arabic and Islamic identity as the nation's fundamental values; as a result, it put a high priority on teaching Hadith, the Quran, and the Arabic language. The personnel for these new institutions were brought from other Arab nations, such as Egypt, Palestine, and Jordan, that were somehow occupied by the British (Al-Hussein & Gitsaki, 2017). More than 90% of the alumni participants in our survey reported having English professors from Egypt, with a smaller number coming from Palestine and Jordan (see Appendix B); these findings are consistent with Onley (2009). The first school to offer a division for female pupils was Al Qassemia Reformation School in Sharjah in 1955. In Sharjah, the British government opened the first school with a thorough Western-style curriculum the same year. In addition, education institutions were constructed by the British government at Abu Dhabi, Ras al Khaimah, and Khawr Fakkan. All of the British-founded educational institutions were technical colleges designed to impart to pupils the fundamentals of farming and manufacturing. To give illiterate male adults with ample possibilities to study and adapt to modern life, the first such facility was established in 1956 (Afshan, 2011).

2.3.2. The modern education system in the UAE

The Education Department was founded by Sheikh Rashid, the ruler of Dubai, in 1958. This initiative sought to transfer control of information transmission from affluent merchants, who funded the previous institutions, to state-sponsored schools. In 1960, there were only 20 schools, and there were an estimated 4000 students. 2018's (Ali A. et al.) The 1970s saw the switch from agriculture, pearling, and fishing to the export of oil throughout the world. Shaikh Zayed believed that money should be spent on both health and education. When the current Emirati Ministry of Education was established in the 1970s, English was first includedin the national curriculum, according to Davidson (2008), and it was introduced in Grade 7. The ministry's primary objective was to expand the quantity of schools and pupils. Primary school enrollment is now required, and all levels of education are now free for UAE citizens. English was introduced in grades 4 and 1 in the 1980s and 1990s, respectively. (2006) Findlow.The national curriculum, which was created in the 1980s, is displayed in Table 2.4.:

Table 2.4. UAE's national curriculum

Education	Grades	ages	Years (duration)	Certificate / diploma
Primary school	1-6	6-12	6	--
Middle (preparatory)	7-9	12-15	3	--
Secondary	10-12	15-18	3	Secondary Education Graduation Certificate
Technical (secondary education)	10	12-18	6	Technical Secondary Diploma
University (Tertiary Education)			4-6 1-2 3-4	Bachelor Master's Doctorate

One of the UAE's highest concerns is education. "Investing in the development of future generations of educated and skilled individuals is the best use that can be made of riches." (President and UAE founder His Highness Sheikh Zayed Bin Sultan Al Nahyan). Adult literacy rates have increased significantly since 1975, when they were just 69.5 percent; today, they are around 95 percent for both sexes. Better preparation, increased accountability, higher standards, and increased professionalism are the main goals of education reform. [22] Over 802, 000 kids attended 1,174 public and private schools in the academic year 2013–2014; this number rose to 905, 000 students in 2019–2020; 794,998 of these attended private schools. schools[23]. Furthermore, English-language education is being incorporated into other courses, including math and science, and rote learning is being replaced with more engaging learning methods. Each of the Abu Dhabi Education Council (ADEC), Dubai Education Council (DEC), and UAE Ministry of Education (MOE) is responsible for implementing educational reform while upholding regional customs, values, and the UAE's distinct cultural identity. One of our key goals is to examine the language differences between this current generation of high schoolers and the generation who attended high school 20 to 32 years ago.

The national-level Emirates Standardized Test (EmSAT) was created in 2017 by the Ministry of Education (MOE) to assess students' proficiency in Arabic, English, Arithmetic, and Science (Batakji-Chazy, 2020). EmSAT offers three different test types:

- Baseline exam: This exam gauges pupils' readiness for Grade 1 in terms of knowledge and abilities.

- The Advantage test measures how well pupils have developed throughout their general education in Grades 4, 6, 8, and 10.

- Accomplishing test: This examination assesses students' readiness for higher education when they complete their general education requirements in Grade 12. For

[22] Joining K-12 Education, October 2017. Retrieved from https://government.ae/en/information-and-services/education/school-education-k-12/joining-k-12-education/stages-of-k-12-education

[23] *Number of students registered in schools in UAE from 2014 to 2019, by education level.* 2021. https://www.statista.com/statistics/943467/uae-student-enrolment-in-schools/

college admission and placement, this test is essential. Beginning October 2019, students have now been evaluated in biology and computer science in addition to their knowledge of Arabic, English, math, and science.

In order to enroll in universities or colleges free of charge in the UAE or to be eligible for government-funded study abroad scholarships, all state school students in Grade 12 ought to take the Common Educational Proficiency Assessment (CEPA), which assesses their level of English and whether these students will be required to take any English courses prior to University.

In reaction to the PISA findings, which showed that the UAE scored below the international average, the Schools of the Future, or in Arabic Madares Al-Ghad were launched in 2007. (Layman, 2011). The purpose of the Madares Al-Ghad is to encourage the use of English as the language of instruction for the key academic disciplines of mathematics and science (Al-Hussein& Gitsaki, 2017). The UAE fared better on the triennial PISA exam in 2018 than it did in 2015, placing 46th out of 77 nations. The UAE government stated that by 2021, they hope to rank among the top 20 nations in the PISA test[24], when the following cycle of the assessments should have taken place, but it took place in 2022 because of the Covid-19 pandemic. The government had set the same goal for 2018. However, it was not achieved. The Emirates maintain the top spot among the Arabic nations despite their poor performance in the PISA rating. In addition, most private schools in PISA 2018 met the goal, although public schools fell short[25].

2.3.3. Primary (Cycle 1) Middle (Cycle 2) Education and Secondary Education (Cycle 3)

Primary education is free and compulsory for Emiratis. Unlike in other countries, only a woman can become an Emirati by marrying an Emirati man, even if a child of expats is born in the UAE, he will never be able to obtain the Emirati nationality. This means that free

[24] Programme for International Student Assessment, retrieved from the official webpage: https://www.oecd.org/pisa/

[25] Education Policy Reform: Building Teacher Capacity. Retrieved from: https://www.edarabia.com/education-policy-reform-uae-teacher-capacity/

education accounts for less than 5% of the population of Dubai and less than 20% of the UAE's population. Students go to primary school from the age 6 to 11. The three years at prep school (middle education) that follow are obligatory too.

All levels including tertiary are free of charge for Emiratis (including at an increasing number of private colleges) and over 80% of secondary school leavers take advantage of this opportunity.

Middle school is required for Emirati pupils between the ages of 12 and 15 because homeschooling is not permitted in the UAE. Students may attend high school after completing the four years of compulsory middle school (equivalent to first and second grade of Bachillerato in Spain). You may categorize elementary, middle, and high schools into the following three groups:

- Public, free of charge. Only Emiratis can go to these schools for free. An expat can enroll his child (maximum three children per family); however, these parents must pay for their children's education.

- Charter schools, which receive public funding or private contributions but are exempt from certain of the laws and legislation that govern regular public schools in return for some sort of accountability for achieving specific outcomes. Emiratis can attend charter schools for free. In September 2019, the first phase began in Abu Dhabi with

12 schools. These schools provide curricula that is rooted in the USA.[26] Following the steps of Abu Dhabi, Dubai implemented charter schools in 2020.[27]

- Private, the UAE is home to a large variety of private institutions, including American and British institutes as well as foreign and multilingual schools. They teach more than 80% of Dubai's youth together. Schools with Emirati students are required to submit to inspections by the KHDA (knowledge and authorities) in order to get government financing. The regulatory authority in charge of overseeing both public and private schools in the Emirate of Abu Dhabi is the Abu Dhabi Educational Council (ADEC).

Secondary education in the UAE is comparable to the Spanish Bachillerato cycle and the American high school system. In the United Arab Emirates, there are two different types of secondary schools: regular secondary schools and technical ones. The three years of regular secondary education are spent teaching academic courses that prepare students for the secondary school leaving certificate, which is required for admission to universities. Technical secondary schools place a greater emphasis on specialized skills; after three years, the majority of students graduate with a technical secondary diploma.

The UAE has endeavored to adopt and monitor high quality education standards by launching new policies, programs, and initiatives in recognition of the ongoing need for advancement. The Middle East's educational development is frequently hampered by a lack of emphasis on English, poor access to technology, and outdated teaching methods and procedures. The Emirates initiated extensive initiatives to advance each of these areas, highlighting the significance of "modern curriculum with varied and non-monotonous modes

[26] New system of education announced in Abu Dhabi / Abu Dhabi picks operators for new charter schools system. Retrieved from https://www.thenational.ae/uae/education/new-system-of-education-announced-in-abu-dhabi-1.876543

and also, from https://www.arabianbusiness.com/education/426738-abu-dhabi-picks-operators-for-new-charter-schools-system

[27] Dubai to open new 'high quality' schools for Emiratis in 2020: Schools will be managed by private operator and focus on Arabic, Islamic studies. Retrieved from https://gulfnews.com/uae/education/dubai-to-open-new-high-quality-schools-for-emiratis-in-2020-1.66456127

of training and evaluation". Its cornerstone is the required budget, which was allocated $7.4 billion dirhams ($2 billion) in 2009, as well as more extensive teacher preparation.[28] The UAE educated over 10,000 public school teachers through its *Teachers of the 21st Century* program and a 200 million dirham part of this funding through the end of 2014, while simultaneously pursuing its scheduled goal of obtaining 90% Emiratization of its employees by 2020. It's crucial to realize that only in Dubai and the Northern Emirates is the Ministry of Education tasked with carrying out the national curriculum. The Abu Dhabi Education Council developed a unique curriculum for Abu Dhabi (ADEC). The New School Model with multilingual education in Arabic and English was introduced in Abu Dhabi in 2010. Some parents lament the lack of or insufficient knowledge of Arab history and ancestry among their children. The same research also showed that a resounding majority of students, parents, and instructors believe that the English curriculum does not expose children to enough Arabic literature. Participants agreed that schools do empower learners to celebrate national, Arab, and Islamic holidays, but they also agreed that students are precluded from speaking Arabic and encouraged to speak English in class. This may be because the New School Model hired hundreds of teachers who were fluent in English, forcing the students to speak only English. Also, students are encouraged to participate in Western holidays like Halloween and Christmas. The majority of parents and educators (more than 85%) concur that the English curriculum does not reinforce their Arab identity, but Western Identity instead.

Public high schools offer five hours of English classes per week. While international schools such as the British School offers four hours of English; however, all the other subjects are also taught in English.

[28] UAE education chief reveals $2bn strategy, 2009. Retrieved from: https://www.arabianbusiness.com/uae-education-chief-reveals-2bn-strategy-82743.html

2.3.4. Music schools and music tradition in Abu Dhabi and Dubai

Music schools in the Emirates are relatively new. *Popular Music Institute*[29] was the first music center to be established in the country in 1990 as a retailer and distributor of the complete range of musical instruments and nowadays has three music schools in Dubai, kids from the age of four can join the school. Over 7 instruments and singing lessons are taught in the institute, which also has a family-oriented music education where parents and kids learn to play instruments. The International Music Institute[30] was found in Abu Dhabi in 1994 and offers classes of music (Piano, Strings, Winds, and Percussion) and dance (aerobics, ballet, modern dance, and belly dancing). They teach from three-year-old children on. In 2007, *Brooklyn Melodies*[31] started operating in Dubai, they offer classes of 10 different instruments and also ballet and dance classes. In 2013, *Melodica Music Center*[32] was founded both in Abu Dhabi and in Dubai, they have 9 different instrument classes and singing lessons, besides teaching ballet, hip hop, and belly dancing. The four schools are official representative of International Board Exams, holding practical and theory exams from the U.K once or twice a year. The new Curriculum in Abu Dhabi in force since 2010, besides promoting the bilingualism (English-Arabic), also incorporated compulsorily music into the program from grades 1 to 5 and in 2011 music and arts instruction were increased.[33]

[29] List of 23 Music and Performing Arts UAE: Edarabia, an education guide in charge of connecting students and parents with top schools and universities, listed a top 23 music schools in the UAE in 2020, retrieved from https://www.edarabia.com/22979/popular-music-institute-dubai-uae/

[30] The International Music Institute, retrieved from https://www.imig.ae/

[31] Brooklyn Melodies, retrieved from https://www.brooklynmelodies.com/

[32] Melodica Music Center, retrieved from https://melodica.ae/

[33] Primary school teachers have welcomed a decision by the Ministry of Education to increase music and arts instruction - in particular, Arab music - in schools. 12/10/2010 Retrieved from https://www.thenational.ae/uae/education/new-lesson-will-be-music-to-pupil-s-ears-1.516497

III. Theoretical framework

The literature that follows demonstrates how phonetics, CLIL, and MI theory have been analyzed over time and used in the UAE, as well as how these theories support this study and other similar ones.

3.1. Language Integrated Learning (CLIL), a solution for the metropolitan areas of Abu Dhabi and Dubai in the UAE?

David Marsh and Anne Maljers coined the phrase "content and language integrated learning" (CLIL) in 1994 as a shorthand for "immersion language learning" or "subject-based training" (Johnson & Swain, 1997). It is a method for learning material through a second or foreign language, teaching both the language and the subject at the same time. The goal of its proponents was to provide a collection of ideas that would include many approaches to employing language as a teaching tool.

The foundation of CLIL is a set of methodological rules developed by "language immersion" research. The target language (or L2) is employed as the medium of instruction in the language immersion technique of teaching a second language.

Language immersion employs the target language as a teaching tool, immersing students in the second language, in contrast to more conventional language courses where the target language is only the subject matter. Both inside and outside of the classroom, such as at meals or daily work, activities such as arithmetic, physics, social studies, and history are carried out in the target language. The foundation for today's immersion programs was laid in the 1960s in Canada, when English-speaking parents were able to persuade teachers to create an experimental French immersion program so that their children could learn about the customs and culture of both French- and English-speaking Canadians. The European Commission has deemed the CLIL method to be of utmost importance since it can effectively give pupils opportunity to utilize their new language abilities immediately rather than learning them now for use later. A wider spectrum of learners may access languages thanks to it, and it helps young students and those who had issues with formal language instruction in general

education develop their self-confidence. Without adding extra time to the curriculum, it gives students exposure to the language, which can be useful in professional contexts.

The European Commission has made the decision to sponsor training courses for teachers that will raise their overall language ability in so as to empower the teaching of non-linguistic subjects in foreign languages.

Because of alterations in the economy and in the world, the UAE is enhancing English in education, particularly in science and math. The sociocultural environment of the UAE, a multi-national nation where English is utilized as a lingua franca to improve communication among its residents, is another factor that promotes the spread of English everywhere. In order to support the teaching of the English language, several public and private schools in the UAE are attempting to apply CLIL. As part of its educational reforms, the UAE has employed CLIL as an instructional technique in several public schools around the nation, including "New Model Schools" in Abu Dhabi and "Madares Al Ghad / Schools of the Future" in Sharjah and Dubai (Younes, 2016). Similar to public schools, many private schools use CLIL as a teaching strategy to improve students' English proficiency. In these schools, science and math are taught in English in addition to Arabic, the first language (L1), which is employed to teach other topics like Arabic, social studies, and Islamic studies.

Another extensive study carried out in the UAE revealed that in order to enhance the standard and maintain the momentum of the program, CLIL language and subject teachers must have the proper training. In this regard, policymakers can utilize the findings to create and provide trainings that are needed-appropriate, whether they are provided internally, externally, or as part of a continuous professional development approach (Alblooshi, 2017).

The results of Younes' (2016) and Alblooshi’s (2017) study suggest that CLIL in the UAE's current educational system is not fostering students' competence in MSA in its current implementation. The preference for English in schools and its widespread use as the dominant language in UAE society appear to be impeding the growth of MSA. Our study is in keeping with Younes’s as our opinion is that the Ministry of Education should have explored Arabic immersion programs instead of the widespread establishment of international schools in Dubai and Abu Dhabi with a view to develop the language's culture and bring together

foreigners and native residents. We discovered that despite just taking two hours of Arabic sessions a week, expats are unable to communicate with local Arabic speakers. Because Emiratis speak Emirati Arabic and because expatriates study Modern Standard Arabic, sessions for expats tend to be grammar-focused (there is rarely oral practice).

3.2. The idea of Intelligence through time and society

The perfect human being might change throughout time and within a given civilization. Ancient Greece prized mental clarity and physical agility (Karamanides, 2006). Romans emphasized bravery, but Chinese culture places a strong importance on poetry, writing, music, and artistic talent. The concept of the clever individual has surely been highlighted by Western civilization. Yet the specifics of that ideal change depending on the circumstances. The clever student at traditional schools might learn classical languages, sciences, and geometry. The clever individual in an IT environment is the one who can swiftly fix computers or readily design software and hardware.

Francis Galton (Bulmer, 2003: 299–328), one of the pioneers of psychological assessment, examined the descendants of people who held influential positions in British society because he felt that intelligence flowed in families (Bulmer, 2003: 299–328). Yet, Alfred Binet, a French psychologist with a passion for children and learning, is sometimes given the distinction of creating the first IQ test. French families from all across the nation flocked to Paris in the early 1900s in search of a remedy to their kids' academic problems. Som years later, the German psychologist Wilhelm Stern[34] created the "Intelligence Quotient," which calculates the difference between a person's mental and chronological ages.

[34] Born in April 1871, Stern coined the term 'Intelligence Quotient', IQ. He published in 1900 a monograph entitled *über Psychologie der individuellen Differenzen* (about the Psychology of individual differences), which appeared, completely rewritten, in 1911 as Differentielle Psychologie (Differential Psychology). During this period, he became involved in the testing of intelligence and of vocational aptitude and was the first to suggest the use of the intelligence quotient to indicate ability. In later years he warned against the overemphasis of such measures, stressing the importance of looking at the role of intelligence in the functioning of the person as a whole, rather than evaluating it as an independent factor. also invented the tone variator as a new way to study human perception of sound. Stern studied psychology and philosophy under Hermann Ebbinghaus at the University of Berlin. "Stern, William." International Encyclopedia of the Social Sciences. Retrieved September 17, 2019 from Encyclopedia.com: https://www.encyclopedia.com/social-sciences/applied-and-social-sciences-magazines/stern-william

It would be simple to conduct this new measuring test to numerous people. Over the years, scholars and learners have debated whether intelligence is a single entity or consists of several distinct faculties. The question of whether intelligence is transmitted or not is anothertopic of debate. Even when data showed that IQs are heritable—for example, identical twins'IQs are more comparable than fraternal twins'—many academics continued to reject the notion of heredity. They stated that since researchers cannot perform true trials with people – they cannot, for example, take identical twins from their homes – the data is not warranted because the discipline of behavioral genetics was established to operate with animals rather than humans. The notion that only individuals who belong to a particular milieu, primarily middle-class Americans, had been researched is another reason why many academics disagree with heredity. The possibility of bias in IQ tests was another subject that interested some academics. Even so, who else save the rich could respond to queries about polo and expensive wines? Also, if respondents were questioned if they would return money discovered on the street, the predicted responses for middle-class and poor participants might diverge.

Because of the controversies surrounding the exam and its usage, many school administrators have developed test anxiety. IQ tests are often only applied in educational settings if there is a demonstrable example of a learning problem. Yet, IQ testing—and particularly the kind of thought that led to it—is still widely employed in modern society.

The idea that the brain is an all-purpose machine and that any section of it can perform any cognitive or perceptual role was still held by some neuroscientists fifty years ago. Our brain is an extremely complex organism, as all available research currently demonstrates. Besides describing the elements of conventional intelligence testing, psychologist Robert Sternberg went farther. He studied how people act in many contexts—at school, at profession, on the streets, and when they are in love—and how they understand and use the necessary skills. Stenberg came to the conclusion that while these pragmatic intelligences are vital to succeeding in our culture, they are not expressly tested for nor taught in school. The desire to quantify intellect is likely to persist and perhaps even expand in the future. Howard Gardner acknowledges this expanding trend of assessing intelligence but believes that intelligence is too vital to be left to intelligence testers. He suggests that since people have a

variety of abilities and potentials, or what he refers to as various intelligences, it is necessary to develop a better conceptualization of the brain.

3.3. The commencement of the Theory of Multiple Intelligences

The concept of many intelligences as we perceive it now was initially introduced in Howard Gardner's 1983 book Frames of Mind. The Bernard van Leer Foundation, a non-profit organization in the Netherlands that promotes the rights of children and young people with disabilities, was responsible for the project's execution. The foundation requested studies into human potential and its manifestation from the Harvard Graduate School in 1973. Howard Gardner has researched the improvement of such skills in brain-damaged people as well as the evolution of such talents in normal and brilliant youngsters. . The first book of theproject, Frames of Mind, not only draws on psychology studies but also on biological sciencesand studies regarding the development and use of knowledge in many cultures (Gardner, 1983). The premise of the book is that IQ tests are biased since they don't evaluate a person across the board; as a result, those who score poorly on them face stigma. This same personcould have additional intelligences not covered by the test, though. He discusses the biological roots of intelligence, but its conclusions have two major problems: The first is the flexibility of human development, which maintains that development is malleable or plastic and that timely interventions can result in an organism with a very diverse set of capabilities. The identity or character of the intellectual capacities that humans can acquire is the second problem. The biologist must take into account abilities (like language) that evolve significantly in normal people as opposed to others (like ballet dancing and playing an instrument) where noticeable individual success gaps are far more common. Based on the research in molecular and molar neurobiology enables us to better understand the potential "natural sorts" of human intelligence. The author takes the time to thoroughly describe each intellect in the following chapters.

3.3.1. Linguistic Intelligence

Those who have strong verbal and/or written communication abilities include poets, announcers, TV and radio hosts, authors, and public speakers. Linguistically intelligent people have a profound awareness of words and awareness to their literal and metaphorical

implications. They are aware of the various ways language may be used, for instance to persuade, enlighten, or amuse, and they are sensitive to the melodic characteristics and cadence of words. Without a thorough understanding of the language tetrad of phonology, syntax, semantics, and pragmatics, one could not possibly aspire to go forward in the world with any effectiveness. The human race appears to have the greatest and most democratic distribution of linguistic intelligence. Our study is mostly focused on linguistic intelligence since we plan to use musical intelligence to enhance language domains.

Early in infancy, even deaf children start to babble; over the first several months of life, all newborns will make sounds from linguistic stocks distinct from their native speech. During the start of the second year, linguistic activity entails, in English, the punctate utterance of individual words: "Mommy," "Doggy," "cookie"; subsequently, the concatenation of pairs of words into meaningful phrases: "eat cookies", "bye-bye Mother", "baby cry". Just let a year go by and the three-year-old is expressing strings of substantially higher complexity, including questions: "When I get up?"; negations " I no wish to go to sleep"; and phrases containing clauses, "Drink soda before lunch, please"? When they are four years old, most children can create interesting figures of speech, tell tales about their own exploits and those of protagonists they have created, change their speech register based on whether they are speaking to adults, peers, or toddlers who are younger than them, and even engage in simple metalinguistic dialog like "What does X mean?" "should I say X or Y? Every language-learning computer program is put to shame by four- or five-year-old's abilities.

Albert Einstein is reported to have spoken extremely slowly at first, but if anything, his reserve may have helped him see and understand the world in a less traditional way. Several kids who would otherwise be normal or nearly normal exhibit selective language learning challenges. Sometimes the issue appears to be mostly due to auditory discrimination, which causes individuals to speak incorrectly.

Linguistic disabilities are often caused by lesions to, or aberrant formation of, the left temporal lobe, which seems to be necessary for the quick processing of linguistic messages—a need for interpreting regular speech. A kid will typically be able to talk pretty well if portions of the brain as large as an entire hemisphere are removed in their first year of life. Language will evolve in the right hemisphere early in infancy because it is so vital and the brain is so

malleable that it can tolerate sacrificing the visual and spatial abilities that are ordinarily confined there. These kids use verbal methods that differ from those who use the left hemisphere's typical language centers, according to a careful assessment of them. In particular, those who rely on the right hemispheric analytic processes analyze sentences in the context of the main lexical items' meanings but are unable to make use of syntax cues since they rely almost exclusively on semantic information. Only kids whose language makes use of left hemisphere mechanisms have shown to be capable of noticing syntactic signals like word order. Both the left and right hemidecorticates can comprehend sentences whose meaning may be deduced from only knowing the definition of the substantives:

The dove was hit by the car.

However, only someone with a healthy left hemisphere can understand sentences in which the crucial difference in meaning is entirely determined by syntactic signals (Gardner, 1983):

The car was hit by the bus.

Given that deaf people can learn natural language, the author is careful to avoid referring to this ability as an auditory-oral kind of intelligence.

Even though they may have very little of substance to say, many handicapped youngsters show a startling mastery of language, especially its fundamental phonological and syntactic components. Several extremely unusual youngsters have amazing early reading ability while having autism or retardation. These "hyperlexic" kids can frequently decipher texts by the time they are two or three. It is difficult to quit reading since it is so obsessive. While one of the hyperlexic children Fritz Dreifuss[35] and Charles C. Mehegan investigated could instantly determine the day of the week of distant historical facts, another displayed a strong recall for numbers. Recent studies have demonstrated that some parts of the left hemisphere are responsible for sentence processing, semantics, and phonology (Vigneau et al., 2006)

[35]Hyperlexia, Exceptional reading ability in brain-damaged children First published November 1, 1972 retrieved from https://n.neurology.org/content/22/11/1105

3.3.2. Musical Intelligence

This study has selected Musical intelligence to enhance English language proficiency. Due to its mathematical focus, music is also linked to other types of intelligence, such as logical intelligence. Pythagoras, who is regarded as the first philosopher, did not separate music from mathematics and utilized it to help him manage his emotions such as anger, melancholy, and worry as well as to help him go asleep (Karamanides, 2006).

As stated by Campbell C., Campbell L., and Dickinson, there are two basic strategies to incorporate musical intelligence in the classroom (1999). The multimodal paradigm, which leverages multiple intelligences as entry points into academic content, is the first and most practical option. Our study is focused on this, not because we think it is the best and most significant aspect of musical intelligence, but rather because we cannot implement music classes in institutions since we do not have the power to change schools' policy. This would lead us to another model of schools, the arts-based one, where Multiple Intelligencesare treated as a strong justification for learning in and through the arts, which are treated as separate disciplines. The background of music's evolution is shrouded in secrecy. Several academics believe that verbal and musical expression and interaction originated from a same source and may have diverged as early as a million years ago. Researchers in psychology have made an effort to understand how musical patterns are processed. The more popular school has adopted what could be described as a "bottom-up" approach, looking at how people process the fundamental elements of music, such as single tones, simple rhythmic patterns, and other units that can be presented to experimental subjects right away and are free of the contextual information present in musical performances. Participants are asked to identify the same rhythmic pattern between two and the higher tone between two. The relevance of findings made from such artificial structures to the larger musical entities that individuals typically experience has repeatedly been contested by musicians (Gardner, 1983: 107). A "top-down" approach to musical perception, wherein one offers to subjects musical compositions or, at the very least, healthy musical parts, was born out of this mistrust. In this research, one usually looks at responses to the music's more general characteristics (does it get faster or slower, louder or smoother?) before looking at the metaphorical descriptions of the music (is it heavy or light, congested or sparse?). Maybe this is the reason a "middle ground" strategy has gained popularity. The objective is to sample musical entities that are

big enough to resemble real musical entities in a non-superficial way but are also analytically tractable enough to allow for systematic experimental changes. Short pieces or unfinished snippets of longer compositions with a distinct key or rhythm have been employed in research in this manner. The participants can choose to compare their own completions, group works in the same key or rhythm, or make their own completions. People seem to have "schemas" or "frames" for hearing music, including expectations for what a well-structured phrase or portion of a piece should be, in addition to at least a capacity to complete a piece in a way that makes musical sense.

Researchers studying both healthy and brain-damaged people have proven beyond a shadow of a doubt that the mechanics and processes behind human music and language are unique from one another. This separation is outlined by Diana Deutsch, whose work is mostly in the "bottom-up" paradigm. The processes through which pitch is perceived and retained are distinct from those that process other sounds, notably those of language, as demonstrated by Deutsch. People are given a set of tones to remember before being exposed to various distracting materials. Recall for the first set is severely hampered if the interfering information is other tones (forty percent error in one study). Nevertheless, if the content being interjected is spoken - listings of figures. Studies of people whose brains have been injured as a consequence of a stroke or other types of traumas strongly demonstrate the uniqueness of musical perception (Gardner, 1983, Magee et al., 2017). While some aphasic people demonstrate impaired musical skill, others may experience severe aphasia without any obvious musical disability. It is possible to lose basic verbal abilities while still developing musical disabilities. This is because the bulk of musical talents, including the central ability of sensitivity to pitch, are concentrated in the right hemisphere in most normal persons, whereas language abilities are almost solely lateralized to the left hemisphere in normal right-handed individuals. Right hemisphere sickness also seems to impair one's ability to appreciate music. For instance, the disease known as amusia is characterized by an inability to perceive or imitate musical sounds.

Even within the same community, a wide range of musical disorders can be identified. Music appears to be solitary generis in this aspect, similar to how natural language is sui generis. Musical breakdown implies no systematic relationship with other faculties, such as

linguistic, numerical, or spatial processing. We could discover that musical competence is even more lateralized and localized than human language once the appropriate analytical tools for examining diverse types of musical competence have been improved.

The literature is replete with stories of autistic children doing astounding musical and acoustical feats. One of these kids, Harriet, was able to perform "Happy Birthday" in the styles of Antonio Vivaldi, Mozart, Beethoven, Chopin, Ravel, etc. Harriet pursued her musical interests in various ways, such as by learning the individual biographies of each Boston Symphony Orchestra member. Her mother began calling her when she was three years old by playing incomplete melodies, which the toddler would subsequently finish with the correct tone in the correct octave.

Numerous composers have emphasized the connections between music and gestural or body language. For this reason, he was devoted to the ballet as a manner of performance and always urged that one see instrumentalists play a piece. Stravinsky thought that music must be seen to be effectively internalized. Hence, in addition to using musical skills to teach participants English phonetics and grammar, our study also makes use of bodily-kinesthetic intelligence; participants will sing and make gestures to aid in their assimilation of the training material. Some musical skills may be strongly related to spatial skills, according to the localization of musical ability in the right hemisphere. The psychologist Lauren Harris (Gardner, 1983: 123) claimed that composers rely heavily on strong spatial abilities, which are necessary to postulate, appreciate, and revise the complex architectonic of a composition. He hypothesizes that the lack of female composers might not be due to any complexity with musical processing per se, but rather to the slightly poorer performances in spatial skills exhibited by females.

According to a priori study, all musical activities—whether they are performed by amateurs or professionals, adults, or young children—activate both hemispheres of the brain, the cerebral cortex, and the memory retrieval system (Reimer, 2004).

According to a 2016 study (López), university students studying Spanish as a foreign language at levels A1 to A2 may perceive sounds and lexical stress differently depending on how musically inclined they are. The findings appear to support the idea that musical ability may have a significant effect in how sounds and lexical stress are perceived. Fish (1984),

Gilleece (2006), Chobert & Besson (2013), and López (2016) all found that participants in the group with the highest musical aptitude had findings that were somewhat superior to those of participants in the group with the lowest musical ability at the perceptual level.

3.3.2.1. Musical performance and feelings

With the medium of music, emotions may be captured and conveyed from the performer or composer to the listener.

Those who have subcortical injury or a mismatch between the cortical and subcortical areas are frequently described as being emotionless and bland; they hardly ever seem to be drawn to or interested in music. It's noteworthy to note that one individual was still able to teach music and even write books about it after suffering significant right hemisphere damage, but he lost the ability and motivation to create. His introspection indicated that he had lost the ability to retain the composition's overall mood. Another musician who suffered from right hemisphere disorder was unable to get any aesthetic pleasure from his concerts. Perhaps the emotional components of music are particularly fragile when the cortical or subcortical[36] structures of the right hemisphere are damaged.

3.3.2.2. Music and Mathematics

Since Pythagoras' Classical discoveries, the linkages between music and mathematics have attracted the interest of intellectual people. The rigorous study of music during the Middle Ages had many characteristics with the study of mathematics, including an interest in ratios, particular ratios, recurrent patterns, and other identifiable sequences. The mathematical elements of music become less obvious in the sixteenth century as harmonic concerns rose to prominence. Yet, due to the increasing use of computers and, more recently, twelve-tone music, music and mathematics have once more been the subject of much discussion in the twentieth century. Understanding how rhythms work in musical

[36] In contrast to subcortical, which refers to the area of the brain directly below the cerebral cortex, cortical refers to or outcomes from the action or condition of the cerebral cortex (the thin outer layer of gray matter about the size of a formal dinner napkin that covers the cortex of each cerebral hemisphere). http://www.merriam-webster.com/dictionary.

compositions requires a basic grasp of mathematics. Performances need for a sensitivity to ratios and regularity, which can occasionally be rather difficult. Several composers, from Bach to Schumann, have expressed their interest in mathematical patterns and regularities; sometimes explicitly, other times through a playful exploration of possibilities (Mozart even composed music according to the roll of dice).

3.3.2.3. Musical Intelligence and Autism

In the professional literature, Eddie Bonafe stands out as the most famous musical talent (Miller, L., 1987, 1989, 1995, 1998, 1999). He had already demonstrated his ability to perform works on par with the Mozart sonatas by the age of 10. The literature discusses several gifted musical geniuses in addition to Eddie's instance. A little girl named Harriet had a second musical gift. She could play "Happy Birthday" in the styles of Mozart, Beethoven, Verdi, and Schubert, among other composers. Harriet pursued her musical interests in various ways, such as by learning the individual biographies of each Boston Symphony Orchestra member or complete melodies with the appropriate tone in the proper octave (Gardner, 1983). In nineteenth-century America, Thomas Wiggins, also referred to as "Blind Tom" (Jensen Moulton, 2006; Davis, J. & Grace Baron, M., 2006; O'Connell, D. 2009), was a well-known musician. Wiggins was a blind, autistic, and most likely mentally handicapped slave born in Georgia. A very competent pianist, according to his performing repertoire, Wiggins was also a superb improviser and composer. His extraordinary abilities were showcased in his concerts. He would perform his own compositions in addition to well-known pieces that presented substantial technical challenges, all from a repertoire of several thousand pieces that he could perform from memory upon request. Wiggins' performances were very well received, and throughout them he engaged in strange physical and verbal activity, including spinning around and running (Southall, 1979, 1983, 1999). When Wiggins heard a piece of music for the first time, he would immediately play it again. He could also play two pieces at once (one with each hand), sing a tune, and recognize all the notes in intricate harmonies. Leslie Lemke is another illustration of a blind person with a developmental handicap who possesses exceptional musical aptitude. Lemke delivers short pieces despite having an excellent memory (Strauss, 2014). Nowadays, autism is recognized as a broad spectrum

disease as opposed to the medical condition or developmental disorder that it was categorized as in the 1940s.

3.3.2.4. Musical therapy

Many studies have been published that claim singing or listening to music can help persons who have Alzheimer's disease, other forms of dementia, or stroke (Moreira et al., 2018; Magee et al., 2017). According to one study, receiving a music-based therapy intervention for at least five sessions will likely lessen symptoms of depression and improve general behavioral issues in dementia patients receiving institutional care. It may also lessen anxiety and enhance mental health and life quality (Wouden et al., 2018).

At various clinics throughout the globe, individuals with Alzheimer's and other forms of dementia are treated with music therapy. The Music Association for Awakening (Música para despertar) [37] and the Mayo clinics in Arizona, Florida, and Minnesota (USA) (Graff-Radford, 2021; Ribeiro Daquila, 2021). The latter gained enormous fame in 2020 after one of its videos went popular on social and mainstream media. The former dancer Marta Gonzalez may be seen in the video watching Swan Lake by Tchaikovsky. She dances the choreography as she listens to the Swan Lake.

The literature is also replete with studies that demonstrate the pain-relieving effects of music during and after interventions (Ghetti, 2014; Gökçek & Kaydu, 2019) as well as its ability to calm patients before to operations or surgery. In addition to helping humans, musical therapy may also be helpful for animals. An elephant named Kaavan was kept in captivity for 35 years at a zoo in Pakistan, the final 8 of which she spent entirely alone. Kaavan has exhibited "stereotypical behavior where he swooshes his head and trunk from side to side for hours," according to the chief vet at the Leibniz Institute for Zoo and Wildlife Research in Berlin. He traveled 4,000 miles in a steel cage with a view to get ready for his release at the end of 2020. He received music therapy in an effort to de-stress and make him morecheerful (Leighfield, 2020). Apparently, this approach was effective. Kaavan was exposed to a

[37] Asociación Música Para Despertar: Música y Amor para convivir con el Alzheimer https://www.musicaparadespertar.com/

variety of musical styles, but his favorite was Frank Sinatra's "My Way," which helped him feel less anxious and stop acting violently.

3.3.3. Logical – Mathematical Intelligence

The typical juvenile develops formal mental operations throughout the early years of adolescence, at least in the Western nations investigated by Piagetians (Piaget, 1965). H e may work on words, symbols, or strings of symbols (like equations) that stand for objects and for actions upon items in addition to the actual objects themselves and mental representations or pictures of these objects. Piaget has produced a wonderful image of development in a specific domain, the logical-mathematical, but has mistakenly believed that it relates to other domains, ranging from musical intelligence to the interpersonal domain, which is the primary point of difference between Gardner and Piaget (the ability to interact with others, understand them, and interpret their behavior).

The work of mathematicians, with the exception of a select few initiates, can only be enjoyed from a distance. It is infamously challenging to give non-specialists a good idea of the boundaries of mathematics.

What traits define people who possess mathematical aptitude? The abilities of mathematicians seldom go beyond the confines of the profession, according to mathematician Alfred Adler, who has extensively reflected on the struggles and victories of his area. Finance and law are typically not strong suits for mathematicians. The person is defined by a love of abstraction, or "the investigation of difficult issues under the strain of tremendous implosive forces, for whose validity and value the explorer is ultimately made responsible by reality."

The ability to handle complex arguments deftly is the most important and least replaceable aspect of the mathematician's gift. Several mathematicians claim that before thoroughly working out each phase of a problem, they intuitively perceive a solution or a path. In order to survive in the world of the mathematician, one must practice asceticism. It is necessary to focus efforts for a long time on issues that appear insurmountable. Language is of little use. One is alone with a pencil, paper, and one's own thoughts. One has to think extremely hard, which frequently results in extreme stress, if not a collapse. A mathematician

finds his or her own monastic niche and enjoyment in hobbies that are unconnected from outside concerns.

Mathematics and science are undoubtedly intertwined. Even the development of science has been correlated with the state of mathematics at certain historical moments, and nearly every big mathematical discovery has subsequently been shown to be beneficial to science. Science and philosophy were inseparable in Classical times. Yet as time goes on, the scientific endeavor has grown more autonomous even while it still interacts with philosophy and mathematics. The separation of science from politics and religion, as well as its growing dependence on empirical observation, measurement, and essential experiments intended to compare various theories, have all played significant roles in the development of science as a distinct endeavor.

The conflict between pure scientists and pure mathematicians is instructive because it arises from the desire to understand nature rather than to construct a coherent abstract universe. The mathematician could look down his nose at scientists and criticize them for being too pragmatic, applied, or uninterested in the discovery of new ideas for their own sake. The scientist, on the other hand, could think that the mathematician is out of touch with reality and has a propensity to follow concepts indefinitely, even when they don't produce any results and might not have any real-world application.

Mathematicians only have a slight advantage in their ability to compute quickly. A component of logical-mathematical ability can be seen acting in somewhat independent form in some people who have a remarkable capacity for calculation. The finest illustration of this type of person are idiot savants (Gardner, 1983:155), people who, while having weak or even retarded abilities in most areas, demonstrate from a young age a capacity to compute extremely quickly and very precisely. Idiot savants don't try to use mathematics to improve themselves in other areas; alternatively, they have perfected a set of processes that make them distinguished.

The idiot savant typically has a true aptitude for mathematics that begins at a young age. For instance, at the age of six, a little boy by the name of Obadiah taught himself how to add, subtract, multiply, and divide. Another eleven-year-old boy Kurt Goldstein investigated

was able to recall nearly unlimited sequences, such as train schedules and financial columns from newspapers.

While some people are born with at least one essential element of logical-mathematical ability, others exhibit selective numerical inferiority. Some of them may demonstrate a selective numerical problem, similar to the issues many youngsters with writing system (dislexics) and a far smaller number exhibit concerns with spoken language(dysphasics).

Those with the developing Gerstmann syndrome, which causes an isolated learning handicap in math coupled with issues recognizing and identifying fingers and telling their left from their right, have the worst disability. Despite the possibility of writing or spelling issues, these kids' language development is typical. The association cortexes in the posterior regions of the dominant hemisphere, which are crucial in identifying ordered arrays and patterns in the visual realm, are lacking in these people.

The evolutionary origins of numerical ability are poorly understood, as is the arrangement of numerical aptitude in the modern, average adult human brain. There are people who become aphasic yet can still handle their finances, make change, and play games that require computation. There are also people who lose their capacity to calculate but retain their language. Furthermore, there is mounting evidence that key components of numerical aptitude are often represented in the right hemisphere. While grasping numerical relationships and concepts appears to need right hemisphere participation, the capacity to read and generate mathematical signs is often a left hemisphere skill. Simple linguistic challenges can make it difficult to comprehend mathematical concepts, just as problems with spatial orientation might make it impossible to perform sums or demonstrate geometrical concepts using paper and pencil. The adult form of the Gerstmann syndrome is thought to be caused by lesions in the left parietal lobes and the temporal and occipital association regions that are nearby. There is a tenuous consensus that these areas may assume a special significance in questions of logic and mathematics.

Gardner offers an alternative explanation for the brain structure that underlies logical and mathematical activities. According to him, some brain areas may be crucial for particular logical and mathematical functions. A compelling argument may be made that, in

some people or with regard to other processes, structures in the frontal lobes or elsewhere in the right hemisphere might impair critical logical-mathematical skills. The parietal region may be significant in many people. Piaget's work has the answer for Gardner.

The capacity to do logical and mathematical processes begins with the most basic infantile behaviors, progressively develops over the course of the first decade or so of life, and requires a number of cooperative brain areas. The majority of the time, these processes can still be performed despite focal injury since they are inherent in a broad and highly redundant kind of brain architecture rather than a specific center. Rather than being primarily affected by localized brain disorders, such as dementias, where substantial sections of the nervous system deteriorate more or less fast, logical-mathematical abilities become more susceptible to deterioration.

While it has been less significant elsewhere, logical-mathematical intelligence has been of distinctive importance in the history of the West. According to Gardner, there are several intelligences; logical-mathematical intelligence is one of them. It is well-suited to tackle some problems, but it is not particularly exceptional or in danger of displacing the others. Language and music both follow a logic, as was already said, but this logic has its own set of laws.

3.3.4. Spatial Intelligence

This intelligence is associated with how effectively a person interprets visual data. The capacity to rotate, alter, and otherwise modify things is a part of this. These abilities frequently coexist in the spatial domain. They do really function as a unit, and using one may very likely encourage using the others. Gardner prefers not to refer to it as "visual-spatial intelligence" because it can develop even in people who are blind and have no direct access to the visual world, much like linguistic intelligence is not entirely dependent on auditory-oral channels and can develop in a person lacking these modes of communication. Gardner considers scientists and engineers to be among people with excellent spatial intelligence. According to some observers, the fundamental source of cognition is visual and spatial imagery. The psychologist Rudolf Arnheim thinks that the most essential operations of thinking emerge straight from our experience of the environment, with vision functioning as

a sensory system par excellence which supports and forms our cognitive processes. Arnheim downplays the importance of words in creative thinking, arguing that we can't think properly about a process or idea until we can see it. A broader perspective would contend that visual or spatial intelligence influences creative and intellectual cognition.

3.3.4.1. Development of Spatial Intelligence

Piaget performed a number of research on the growth of young children's spatial cognition. Young children start to develop mental imaging skills at the conclusion of the sensorimotor period of early infancy. They don't need to be there in order to picture a circumstance or a location. One may wonder if logical-mathematical and spatial intelligence actually refer to separate types of intelligence given that both develop as a result of the child's interaction with the outside environment. The contrast between operative knowledge, where the emphasis is on changing the configuration, and figurative knowledge, where an individual keeps the configuration of an item, was made by Piaget. Piaget believed that the introduction of concrete operations at the beginning of school marked a significant turning point in the development of the child's mind.

The kid is now able to actively manipulate pictures and things in space to a far greater extent. The youngster can only engage with the concept of abstract spaces or with formal laws regulating space during the formal operation phase, throughout adolescence. Several research on children's greater spatial knowledge have been published. Youngsters as young as three, for example, are able to physically retrace a path they are familiar with, but they struggle to predict what they will find in unfamiliar places that they have not yet traveled to but about which they have gained some independent information.

More research has likely been done on the brain's ability to process spatial information than any other human capacity, with the exception of language studies. This research tradition has produced convincing results. The right hemisphere of the brain, and in particular the posterior regions of the right hemisphere, proves to be the location most critical for spatial and visual processing, just like the left hemisphere of the brain has been identified as the preeminent site for language processing. Damage to the left posterior areas, however, can also result in significant spatial impairments.

Research on monkeys demonstrate how crucial spatial intelligence was to a roaming band's ability to travel over vast areas and securely return home. In order to avoid being lost, it was essential to have an acute spatial cognition. The preference for spatial abilities may also contribute to the explanation of why sex differences stand out more in tests of spatial intelligence than in examinations of the majority of other types of intelligence. Due to the predominance of male preoccupations with hunting and roaming, highly developed spatial abilities in men were more likely to have evolved and those without them were more likely to die young.

3.3.4.2. Unusual forms of spatial ability and disability

Studies with blind participants have demonstrated that spatial knowledge is not fully dependent on visual system, and that these participants may even enjoy certain qualities of pictures. Both blind and non-blind subjects who have been blindfolded may distinguish geometrical forms that have been shown through raised line drawings. Blind people can gain access to information that normally requires both tactile and visual modalities by using only their sense of touch. Moreover, paintings of young blind people resemble those of sighted people. Studies conducted by Barbara Landau at the University of Pennsylvania provide the most remarkable account. In one experiment, a 2-and-a-half-year-old child who is congenitally blind showed the capacity to determine the optimum path between two objects by only walking to each of them from a third location. In order to map out the path between various items along a path she had never personally walked. The child had to calculate the length and angle of the link between the familiar pathways before calculating how far the new path was. It is obvious that metric features of space may be deduced even in the absence of visual cues. As well, the same youngster was observed once more at the age of four and was able to utilize a tactile map to identify a prize in the space. N ever having seen a map notwithstanding, the little youngster was able to understand its purpose and apply it to get where she needed to go. Gardner's research was greatly aided by Landau's finding that there is no special link between visual input and spatial intelligence. Francis Galton's

groundbreaking analysis of the visual faculty[38], Galton discovered that people with apparently moderate intellectual abilities frequently provided precise concrete images when asked to recollect the scene of the morning's meal whereas scientists generally reported little or no visual imagery. Those who are otherwise impaired sometimes have unusual spatial ability. An English adolescent with severe autism was able to produce drawings of the most astounding refinement and realistic accuracy as a very young child, despite having a subnormal I.Q. and being able to sell his paintings for a high price. Nadia, on the other hand, was unable to depict an object in a more straightforward manner and felt forced to depict each and every detail in every single drawing.

3.3.4.3. The employments of Spatial Intelligence

Without a developed spatial intelligence, it is difficult to see how a photographer, sculptor, topologist, or even an air traffic controller might advance in their fields. There are numerous more activities for which spatial intelligence alone may not be sufficient to generate competence, but which it does in many cases to supply the intellectual drive. It ought to be emphasized, nonetheless, that not all fields of mathematics, science, or the arts need spatial reasoning. In contrast to algebra, topology makes considerably better use of spatial reasoning. Those with excellent spatial abilities, like Leonardo Da Vinci and Arthur Loeb, are capable of succeeding in a range of different fields, possibly particularly those associated with science, engineering, and the arts.

Chess would be a good example of how important spatial intelligence is. Chess masters have always exhibited exceptional visual memory, or as they prefer to call it, visual imagination. Yet, a closer look at these people indicates that they have a unique kind of memory. The inventor of intelligence testing, Alfred Binet[39], studied mnemonic virtuosity in blindfolded chess, where one player can see the board and the other cannot. Playing blindfold

[38] Francis Galton's Inquiry into Human Faculty and Its Evolution discusses his finding that scientists tend to have weak visual imagery. (London: Dent, 1907)

[39]In Nice, France, on July 8, 1857, Alfred Binet was born. Known for the Stanford-Binet IQ Test and the Simon-Binet Intelligence Scale. https://www.verywellmind.com/alfred-binet-biography-2795503

chess successfully requires stamina, intense attention, knowledge, memory, and creativity. Chess players have good recall, especially of significant previous matches.

3.3.4.4. The visual arts

It goes without saying that spatial thinking is essential to the visual arts. An extraordinary sensitivity to the visual and spatial environment is required for both painting and sculpture. Most artists start off by mastering methods created by their forebears. Leonardo da Vinci, for instance, would follow a person with a strange head or beard a whole day and so learn him by heart, that when he reached home, he could depict him as though he were actually there. Michelangelo had a very tenacious memory. He was able to recall and utilize the works of others even if he had only seen them once, and he never reproduced anything he had created since he could recall everything he had done.

3.3.4.5. Spatial intelligence throughout the cultures

In all known human civilizations, spatial competency may be observed. Some distant societies have evolved extraordinarily precise spatial intelligence. For example, the Gikwe aboriginals of the Kalahari would discern an antelope's size, gender, structure, and temper from its spoor (Gardner, 1983: 200-204). Throughout the hundreds of square kilometers they cover on foot, they are familiar with every thorn, stone, and earthen convolution. A same situation may be seen in Kenya, where Jomo Kenyatta learned as a young child how to identify each of the cattle in his family's herd based on its color, patterns, and the shape and kind of its horns. Another excellent example of heightened spatial intelligence is found in eskimos, perhaps as a result of their challenges navigating their environment.

In the South Seas, the Puluwat people of the Caroline Islands have highly refined spatial ability as well. Navigation is a highly developed talent that is only present in a small percentage of people who are authorized to sail canoes. There is a blossoming of talents among this well-trained populace that has awed Western-trained navigators. The constellations in the horizon holds the key to Puluwat navigation.

Talented people's spatial intelligence is generally preserved till they pass away. Picasso and other famous artists painted until their nineties, although all people's logical-mathematical mind and bodily-kinesthetic skills deteriorate as they age.

3.3.5. Bodily-Kinesthetic Intelligence

The ability to use one's body in highly sophisticated and skillful instances for both eloquent and goal-directed objectives is known as bodily-kinesthetic intelligence. The core of bodily-kinesthetic intelligence is the capacity to control one's physical movements and the deft manipulation of objects. Gardner works with both types of bodily intelligent individuals, including athletes (who have a great understanding of their bodies' movements) and artists, musicians, and dancers (who can use items with perfection). Other people who make extensive use of the body, such as actresses, performers, and mime artists, are also considered by the author; in these jobs, other intelligences are usually essential. The actress, for example, employs skills from the personal, linguistic, and musical intelligences.

In dance, problem-solving is a highly tactile and direct process that provides immediate results. When something is effective, the body understands it, and it makes sense in a straightforward and uncomplicated manner. When something doesn't work, the mind and body work together to come up with a new solution. The human body is designed with this type of "body thinking". This approach is among the earliest ways we discover physics. Gravity, tension, power, mobility, as well as a body that can be perfectly tailored to its own inner workings.

While many academics have taken bodily intelligence for granted or downplayed its relevance, motor activity has been seen to lack "superior" cerebral cognition than activities that support "pure" intellect. Nonetheless, according to Roger Sperry[40] a well-known

[40].In 1913, Roger Wolcott Sperry was conceived in Hartford, Connecticut. At a very young age, possibly around the age of 10, Sperry was exposed to the mind-brain dilemma through an accidental reading of William James. His dedication remained unbroken for the following 50 years, and his interest in psychology was at the center of all of his work. It would be challenging to locate a more diligent researcher, a better creator of exquisite experiments, or more intellectually demanding thinker in the history of psychology and science. His theories have had a long-lasting influence on society, neuroscience, neuropsychology, psychology, and philosophy. One of the 20th century's intellectual titans was Sperry. Retrieved from: http://rogersperry.org/

American neuropsychologist, instead of seeing mental activity as a secondary form designed to satisfy the needs of the brain, activity should be seen as a way to accomplish the goal of carrying out activities.

The inclination for left hemisphere predominance in motor function appears to be a human predisposition. The left hemisphere of most people's brains will be dominant for motor activity, just as the left half of their brains will predominate in terms of language. It appears that lesions to the zones of the left hemisphere that are prominent for motor activity can cause selective disability or apraxia[41], supporting Gardner's hypothesis for a separate bodily intelligence.

The largest leap forward in human development happened between 35 and 40 thousand years ago, at the period of Cro-Magnon man. It's hard to separate it from the usage of productive oral and auditory languages. There were strong indicators of human symbolic skills at the period, such as images, notations, ceremonial dances, and a concomitant revolution in tool accuracy.

3.3.5.1. Piaget and the Development of Bodily Intelligence

Although Piaget did not see his work as having anything to do with body intelligence, his account of the development of sensorimotor intelligence sheds light on its early stages. The progression of people from the basic reflexes may be observed in Piaget's depiction. There may be substantial parallels between an infant's first cyclic reflexes and the far more complex types of activity that define great dancers, chess players, and typists, for example.

The Dancer

Dance dates back to the Paleolithic era since old European and South African cave paintings portray masked dancing sorcerers and hunters. There are several movement options, and one

[41] Apraxia is the inability to carry out complicated coordinated motions without sensory or muscle impairment. Brain damage brought on by ailments such head injuries, strokes, brain tumors, and Alzheimer's disease results in apraxia. The injury disrupts the brain's capacity to provide the body the right signals. Apraxia can take several forms, some of which include the inability to speak or gesture. Merriam-Webster dictionary was used as the source. https://www.merriam-webster.com/dictionary/apraxia

may develop or create a dance language from their combination with variations in speed, direction, distance, intensity, spatial relations, and force. Paul Taylor, an American dancer and choreographer, asserts that a dancer's individuality will unavoidably shine through in a performance. When Gardner made this claim in his book, he ought to have exercised caution or been more precise. Although one can express their own emotions in modern ballet, there are many distinct dance forms in which the dancer must play a role and should not display their personalities. More freestyle dances like flamenco, modern ballet, and street dance allow dancers to express their personality, unlike certain dance genres like classical ballet or a professional Broadway ballet. Gardner states that music is a dance's most essential companion, but as a dance may exist without music, the latter's existence cannot be used to define a dance.

The Actress

Actresses need to be able to attentively watch and then meticulously replicate. By the age of two, every average child is able to watch sequences or demonstrations by others and replicate some of the elements at a later time. This mimetic capacity starts extremely early, even in the first days or weeks of life. A potential performer may need to possess a high tendency to copy and retain shows effectively. Based on Boleslavsky[42], Gardner asserts that "The actress must strive to reproduce sensations with the assistance of unconscious recollection" (Gardner, 1983: 227). Gardner mentions Stanislavski, who underscores the essential role of emotions in the performance of the actress. The actress must embody the feeling throughout every performance of the role, not only when she is studying it. Gardner says that Stanislavski sees training as a method to set the performer into a creative state where the subconscious may work freely. Another instance of Gardner's generalization of

[42] Richard Boleslavsky was a student of Stanislavski who came to the United States after fleeing post Revolutionary Russia. From the very start of his artistic career in the U.S. Boleslavsky spoke about this dialectic in his lectures at the Princess Theatre. The notion, so widespread in the U.S., that the Stanislavsky System is one of barely naturalistic reproduction of life onstage is repudiated from the very beginning by the man who first introduced the System to the United States. Consequently, even in the earliest stages of Stanislavski's research, the bare reproduction of truth onstage was not an aim in itself.

Stanislavski's System, which gives performers a series of exercises to hone their acting skills, occurs at this point. By instructing actors to "feel the part" while performing, Stanislavski's System principally focuses on the creation of artistic reality onstage with regard to emotions. Stanislavski envisioned using the "system" in all kinds of theater, including opera, melodrama, and vaudeville. He set up a number of theater studios where aspiring actors might receive training in his system. Actors were taught at the First Studio[43] to utilize their personal experiences to convey emotions. Stanislavski calls actors' attention to conscious sentiments in his book *An Actor Prepares*[44]. For example, if an actress must portray a character whose father has recently died, the actress should consider the feelings she genuinely experiences when a loved one passed away. Stanislavski spent a lot of time working consciously rather than subconsciously, as Gardner says in his book. Yet in the latter five years of his life, Stanislavski saw that certain performers who used or abused this technique—the emotion memory—were prone to hysteria. Therefore, Stanislavski started searching for more credible means to obtain emotion, Eventually, he developed the *Method of Physical Actions*, a set of physical acts performed in a specific order that serve to evoke the appropriate emotions during a performance rather than the performer's personal and sometimes upsetting recollections. The actor's unconscious emotions were then brought out by Stanislavski utilizing a conscious physical map of acts.

According to Gardner, certain acting strategies that downplay the importance of recreating the felt mood mobilize interpersonal intellect whereas emotion-centered acting techniques stress intrapersonal intelligence.

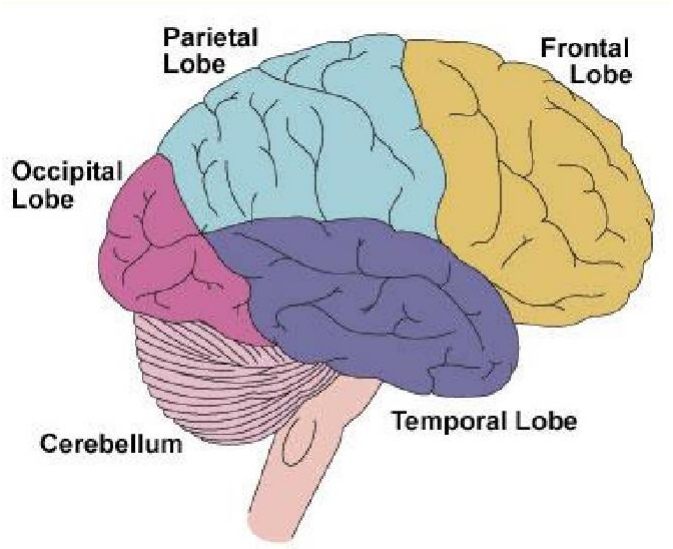
[43] Constantin Stanislavki, Russian actor born in 1863, formed the First Studio in 1912, where his innovations were adopted by many young actors. Retrieved from https://www.britannica.com/biography/Konstantin-Stanislavsky

[44] Stanislavski, C. (1936) *An actor Prepares.* New York: Theatre Arts, Inc.

3.3.6. The Personal Intelligences

Gardner splits personal intelligences: interpersonal intelligence allows a capable adult to interpret and act on the intents and goals of others, and intrapersonal intelligence allows a human being to analyze and know oneself.

Figure 3.2. Lobes of the brain[45]



The frontal lobes are the most significant structures in various sorts of personal intelligence. The loss of the frontal lobes in an adult (see Figure 3.2.) may have a substantial influence on his personality. Injury to the orbital (lower) region of the frontal lobes generates impatience, hyperactivity, irritation, and exhilaration, according to Frank Benson[46] and Dietrich Blumer[47], but injury to the higher portions of the frontal lobes causes indifference, listlessness, slowness, and apathy. It is important to note that individuals who have been wounded in these areas will preserve a considerable percentage of their cognitive function;

[45] Information on frontotemporal disorders for patients, families, and caregivers. National Institutes of Health. 2015.Retrieved 20 January 2023.

[46] D. Frank Benson is a renowned neurologist, who in 1988 first described the Benson's Syndrome, which is usually considered an atypical variant of Alzheimer's disease.

[47] Dietrich Blumer is an American psychiatrist, who in conjunction with D. Frank Benson edited the book *Psychiatric aspects of neurologic disease*, in 1975.

a sense of being the "same person" is often regarded to be lacking. The individual's former feeling of purpose and motivation for contacts with others is no longer expressed.

3.3.7. Naturalist Intelligence

Gardner's book *Intelligence Reframed* (1999) proposed naturalist intelligence as a potential new form of intelligence. Naturalist intelligence is ranked as the eighth intelligence in MI New Horizons (Gardner, 2006), as there is strong evidence to support its existence. Intelligent naturalists are people that have a good understanding of how to identify and categorize the many floras, animals, mounts, rivers, etc. in their surroundings. Not only are these skills visual; for example, hearing a bird's song requires aural perception. Less individuals now in the industrialized world rely on naturalist intelligence. We just go to the grocery shop or purchase food online or by calling. When it comes to innate intellect, young children typically outperform their parents. Take the ability to identify different dinosaur species.

In studies of brain damage, people who lose the capacity to label and recognize inanimate objects but can still remember the names of living things have been observed; less frequently, people who lose the capacity to identify and recognize living objects but fail to do so with artifacts have also been observed. These skills are likely to draw on a variety of perceptual processes (Euclidean geometry works in the world of inanimate objects but not in the world of nature) and experiential bases (We do not engage with objects and living things in the same way).

3.3.8. Theory of MI and its own critique

One chapter of Gardner's book is devoted to self-critiquing. The author acknowledges that further information is needed and reminds the reader that the MI concept is an old one because many aspects of the mind were understood even in ancient Greece (Karamanides, D., 2006). For example, Pythagoras' father gave his son tutors who could teach subjects as diverse as philosophy, music, painting and Athletics. The theory's goal is simple: I want to replace the present, mostly debunked idea of intelligence as a hereditary characteristic (or group of qualities) which can be consistently tested through an interview which lasts one hour or through a paper and pencil exam. But it's also worth noting that the particular use of this term does not really

matter and I would be satisfied to substitute such phrases as 'intellectual competences', 'thinking processes', or other cognate mentalistic[48] terminology. The notion is more important than the label since, if a person is healthy and the right stimulating elements are present, they have a variety of potential intellectual competency areas that they may develop (Gardner, 1983: 284).

Gardner's work does not address appropriate motivation and satisfactorily focused attention because, even though they are applicable across a variety of intellectual realms, only one or two of these spheres may require a high level of motivation or attention in a given individual. For instance, a pianist may have exceptional attentional capacities for rhythm and melody but neither motivation nor interest in other areas of life.

Because of their wide and universal character in terms of individual intelligences, cognitive capacities such as rationality, creativity, and metaphoric aptitude were not addressed. Indeed, it is far from clear how any of these concepts can be interpreted within the context of MI theory. If awareness, recollection, or metaphor or wisdom could be demonstrated to exist outside of the MI theory's framework, these elements may be added to the theory.

3.3.9. The socialization of human intelligences through symbols

The children gain some fundamental understandings throughout infancy, which will subsequently manifest as capabilities for certain mundane symbolic actions. The newborns have a set of skills and abilities by which they learn about the world; schemas such as sucking and staring, which are applied to any accessible item at first, and subsequently the child begins to direct particular behaviors to specific things (e.g., sucking nipples). Early childhood flexibility is one of the most perplexing of all biological mysteries, since only a small percentage of people are able to keep or retrieve it. Nonetheless, some psychologists have proposed an alternate viewpoint, claiming that the early infants are a captive of their skills, which may exist in exquisite form but also lie in total isolation from one another, not able to

[48] Of or pertaining to any school of psychology or psychiatry that, in contrast to behaviorism, places a premium on using subjective information (such as that received via introspection) to analyze and explain behavior. http://www.merriam-webster.com/dictionary/mentalistic

be linked in a productive way; whereas the grownups are able to gain conscious access to their various modular abilities and to mobilize them in various situations (Gardner, 1983: 314). These viewpoints, according to Gardner, do not have to be mutually exclusive. The capacity to effortlessly learn a program is simpler in early life, but the ability to mobilize suchtalent and apply it to new purposes could be a mature individual's prerogative.

Recent study has demonstrated beyond a shadow of a doubt that, whatever disparities may appear at first, early intervention and persistent training may play a critical influence in determining an individual's eventual level of performance. It will play an essentialrole how much a culture values a certain quality, if significant resources are invested in it, andif a person can demonstrate exceptional proficiency in an intellectual or symbolic realm.

Between the ages of two and five, children learn to appreciate and create language (sentences and tales), two-dimensional symbolism (photos), three-dimensional symbolization (clay and cubes), gestural symbolization (waving their hands), music (songs), drama (role plays), and certain mathematical and logical concepts. Language abilities in terms of syntax have greatly expanded from the ability to concatenate two words at the age of 18 months to speaking in complicated sentences, asking "why" questions, and utilizing passive constructions. After learning the fundamental symbols at school, the youngster progresses to greater levels of them. Language may be viewed as a distinct stream within the children's growing set of skills. Pitch is the fundamental streamlike problem in music. The youngster eventually learns to disregard the metaphorical potentials that are overlooked in his own society.

Finally, the individual will most likely come to be a completely skilled user of symbols during adolescence and adulthood.

3.3.10. Interaction among intellectual competences

Gardner connects all the intelligences that would benefit a lawyer in our society: the ability to retain details from hundreds of cases and produce outstanding briefs in language; the capacity to think critically and pursue a complex line of reasoning to its rational

conclusion; interpersonal abilities to interview witnesses and prosecutors and talk persuasively in court. Each job in a complex society may be subjected to an equivalent assessment, and we can clearly understand how different combinations can be used by various practitioners in both our society as well as others. However, the majority of IQ tests are activities that place a heavy emphasis on language and logical-mathematical ability. As a result, persons who excel in these two areas will do well on these examinations, as opposed to people who excel in other areas.

3.3.11. Chomsky and Piaget

Despite the fact that Piaget claimed to be investigating the biology of cognition, he remained oblivious to certain biological tendencies in the cognitive domain. Information-processing psychology is a step forward from Piaget because it pays more attention to the methods by which people solve issues on a daily basis.

Chomsky's theory is utterly skeleton since he dismisses the importance of culture. Between Piaget's view of the developing organism going through rigid stages and anthropological focus on the forming effects of the cultural environment, there should be a place where productive compromises between Chomsky's emphasis on individuals with their unique unfolding mental faculties, the diverse processes of children's development, and cultural values are considered.

3.3.12. The education of intelligences

In Table 3.1. below, Gardner shows examples from three different cultural backgrounds; various educational contexts would generate a variety of different combinations of transmission, and intelligences (Gardner, 1983: 339).

Table 3.1. The Analysis Framework for Educational Systems in Three Cultural Contexts

Component of schooling	Specialized Expertise in an Illiterate Culture	Literacy in Traditional Religious school	Scientific Curriculum in Modern Secular School
Samples from Frames of Mind	navigation of the Puluwat; Yugoslavian oral poetry	Islamic; Hindu gurukula; Hebrew Medieval school	Primary and secondary education in Europe, North America, and

			Japan; computer programming
Intelligences	Linguistic, musical(oral poetry) Spatial(navigation) Bodily-kinesthetic; Interpersonal	Linguistic Interpersonal Logical-mathematical (among advanced students) Oral poetry or books	Logical-mathematical Intrapersonal Linguistic (less emphasized)
Media of Transmission	On site	within a religious edifice or a separate structure	specific building; Learning can sometimes be done privately at home or in a classroom
Who Transmits Knowledge	knowledgeable seniors, usually relatives	The ones with a strong moral foundation; high expectations for moral behavior; high rank, with the exception of entry-level posts	those with lesser degrees of schooling training; those with greater levels of specialized training; Moral character is irrelevant.
Learning Context	The majority of people have the same basic abilities, including sailing, a select few may be professionals.	The majority of males begin their education in religious institutions; outstanding graduates frequently enter the clergy or communal elect	primary and secondary schooling; many students have postsecondary specialized training

Rural Yugoslavians who come to be oral verse vocalists have no official coaching; the person begins to practice the formulae on his own over years of hearing and assimilation, and he is essentially self-taught.

3.3.13. Types of school

Koranic education focus on the memorization of the entire Qur'an. Before being instructed in the Arabic alphabet, the kid initially hears the Koran being read aloud and memorizes just few verses. Learning to read and write in the language of the sacred book is the main focus of the first few years of education. It is the most popular sort of school not just in the United Arab Emirates but throughout the Arab world. Pupils learn the Koran at the age of six until they graduate from high school. Even though curriculum of private educational centers includes both Islamic studies and MSA, according to the Ministry of Education, non-Muslim students are not compelled to take the Islamic Studies course. Before being permitted to teach the subject at private schools, the Islamic Studies instructor must have approval from the federal Ministry of Education.

Instead of relying on religious texts, *modern secular education institutes* embrace all learned information on an equal basis. Teachers are government workers that were picked according to their academic skills and not based on their moral conduct. Nevertheless, not all traditional institutions were religious, and many secular schools had religious links, therefore it is important to define the line between traditional and secular schools carefully.

The proportional importance of interpersonal intelligence—the capacity to see others as unique individuals and to form strong bonds with a single mentor—has decreased in today's educational environment. Contrarily, because each person is in charge of their own education, intrapersonal skills continue to advance.

Uniform schools are conventional schools in which all pupils are treated identically; it favors those with high verbal and mathematical intelligences but is incredibly challenging for those with other intelligences.

Individualized schooling is not self-centered; it recognizes and respects the diversity amongst pupils. Tutors strive to get as much knowledge as possible about their students' learning skills and preferences. Goals for education should be defined as explicitly as feasible. We can pick from a variety of objectives, including creative and critical thinking, and interdisciplinary thinking. In addition, more difficult considerations about what is not a priority must be addressed.

3.3.14. The Suzuki Talent Instruction Center

Suzuki's Talent Center in Japan, founded by the attentive violinist Shinichi Suzuki. The music program is meticulously planned and begins at birth and aims to develop proficient musical skills in young kids. The mother has a significant role in the program, especially at the beginning. First, throughout the initial year of life, the baby is exposed to recordings of exceptional performances on a regular basis. The baby starts experiencing the twenty songs that will make up his course in the program around the conclusion of the first year. At the age of two, the toddler begins taking classes in their mom's group. Then at home, the mother starts performing on her own every day, until one day the kid is allowed to touch the instrument. When the mother and teacher determine that the kid has reached the greatest excitement, he / she is asked to join the group he has been watching and receives personalized instruction. After that, the mother and kid return home and work diligently on the lesson. The mother's role as an active student and musician gradually fades, and the attention shifts to the infant. Even the youngsters who aren't particularly gifted will play at a level that astounds observers. Learners can perform a Mozart concerto by the age of twelve.

Suzuki has concentrated on musical intelligence and has aided students with a seemingly diverse variety of natural abilities to progress quickly within this specific domain. Suzuki made use of the critical period for musical skill acquisition, when the young child's brain is plastic. As a result of the method's emphasis on learning by ear rather than notation, youngsters struggle to grasp sight reading. By the age of six or seven, switching to a notation-based technique might be a suitable answer to this problem. Also, from the Baroque through the Romantic periods, the music played is entirely Western; the children are not exposed to other musical styles.

Children are taught to imitate sounds that they have heard. Because of this, few Suzuki-trained kids show a propensity for composing. Similar methods might have been used to teach any other art form, from painting to flower arranging. If the same discipline, enthusiasm, and faith were applied to it, the same character qualities might be shown.

3.3.15. Pointers for policy makers

In order to assess pedagogical experiments, a thorough examination of educational processes is required. In a changing world, these mechanisms may be activated to fulfill new demands. It's a good idea to start by evaluating the objectives of a specific intervention or an entire educational program. The more clearly these objectives are stated, the better. The following phase is a realistic evaluation of the present options for accomplishing these objectives, considering the agents and loci of transmission as well as the methods in which values, roles, and processes have been passed down through generations. It is advisable to start developing methods for analyzing people's intellectual profiles at a young age. One of the main objectives for such an early testing is to allow a person to progress quickly and safely in those intellectual channels where they are gifted, as well as to boost those talents that appear to be modest.

3.4. Intelligence Reframed: first assessment on the application of MI

Howard Gardner publishes Intelligence Reframed (1999), over a decade after the initial publishing of Frames of Mind, a book that leans extensively on articles produced by theauthor in the 1990s. Principle objectives: first, to examine how the hypothesis of multiple intelligences has been integrated into various cultures; second, to debunk some of the misconceptions surrounding the theory. Third, to look into its practical uses of Gardner's theory.

3.4.1. Tests for the eight intelligences are not a must

The use of a battery of tests is incompatible with MI theory's key assumptions. Intelligences ought to be evaluated in methods that directly investigate the intelligences and not from language or mathematical views (e.g., ordinary paper-and -pencil tests). Should you want to test people's musical intelligence, for example, give them a new tune in a relatively known style that they can sing, identify, or change. Assessing multiple intelligences only ought to be done if there are compelling arguments to do so, such as determining whether a kid has a cognitive handicap that prevents them from learning in a particular subject.

3.4.2. An Intelligence is not a domain, a discipline or learning style

An intelligence is a novel idea that incorporates both biological and psychological possibilities and capabilities. Domain and discipline are human behaviors that are socially formed and should not be mistaken with intelligence. In today's Western world, constitutional law, physics, cookery, chess, and trap music are instances of domains. Using a combination of intelligences, any domain may be realized. Chess, for instance, necessitates spatial, mathematical, and even intrapersonal intelligence (Knowing my opponents allows me to predict their next action).

A style refers to a broad concept that may be used in a wide variety of contents. For example, when someone is described as having a "reflexive" or "intuitive" style, we might anticipate that he will be introspective or intuitive with all sorts of content, from language to music. (Gardner, 1999)

3.4.3. MI theory is empirical

MI theory is based entirely on empirical facts and may be updated in light of fresh results. When the seven initial intelligences were defined in Frames of Mind, hundreds of studies were evaluated; each intelligence was recognized and characterized based on scientific data from brain science, psychology, anthropology, and other fields.

MI theory is not a set of pedagogical guidelines. Educators are in the greatest position to assess if MI theory should influence their practice and to what extent. Gardner is skeptical of attempts to teach all topic concepts using all of the intelligences. Furthermore, categorizing people based on "their" intelligences is insufficient. When employed by educators, these designations can be dangerous. People who have been thus classified may be perceived as only capable of functioning or learning in a specific way.

MI's three main propositions are: Because we are all unique, we do not have the same kind of thoughts. The premise of MI viewpoint is to take human diversity seriously. An MI school should take human diversity seriously, and it should provide opportunities for students to express themselves.

3.5. MI New Horizons: an outlook after twenty-five years

Much new information has come to light in the twenty-five years since the original publishing of Frames of Mind (1983), thus it might be that these scientific findings drastically transformed the notion of multiple intelligences. This, however, did not happen. Gardner claims that three distinct meanings of the term "intelligence" have evolved recently, and that the issue of improving intelligence differs across these three sorts; as a result, educators ought to be aware of such distinctions:

1. Intelligence as a defining feature of a species: It's difficult to distinguish the distinguishing traits of human intellect since chimp and human genetic components are so similar. When we concentrate on this intelligence, we may make a broad assessment of human andnonhuman capabilities.

2. Individual differences in intelligence: for example, Mohamed is smarter than Maha. This is the most common argument used by psychologists who follow the psychometric school and believe that intelligence is a feature like being extroverted or the color of one’s eye.

3. Intellect as appropriate execution of a task: The famous Argentine ballet dancer Julio Bocca's performance is distinguished not by his skill but by the overwhelming intelligence of his interpretations. Bocca's movements are flawless, even now at 56 years old. This third definition of intelligence has received the least attention, but it may also be the most fascinating. The emphasis is on how a task is carried out.

"We won't know the degree of independence of various intelligences until we've designed far better measures for every single intelligence and studied the brain and genetic foundations for whatever characteristics emerge," Gardner says, "and we won't be able to look at the results in only one cultural context." The distribution or overlap of intelligences may vary significantly among cultures and even historical periods."

A distinction between "laser" and "searchlight" profile has recently arisen. People who have a laser profile have a dramatic spike on their profile that involves one or two intelligences. For example, Bocca's laser profile emphasize bodily intelligence. Individuals with the Searchlight profile have about similar capabilities in three or more intelligences but

do not display any of them. These people have a larger radar screen to ensure that nothing crucial goes unnoticed. It's crucial to remember that every complex civilization need both profiles. Politicians and entrepreneurs are wonderful examples of persons having a searchlight profile since they aren't expected to be global experts on every subject. For example, a soccer coach may rely on physical, spatial, logical, verbal, and personal intelligences.

3.5.1. Educational Perspective: Project Spectrum and the Key Learning Community

The Stanford-Binet Intelligence Scale and Project Spectrum are two different forms of intelligence assessments. Both tests can reveal similar characteristics; nonetheless, Spectrum is an evaluation that is performed over time with rich materials in the child's real world, as opposed to the Stanford-Binet exam, which lasts an hour and a half or two hours at most. Spectrum has eighteen aesthetic qualities and fifteen cognitive skills. At the end of the school year, the research team compiles the data gathered about each Project Spectrum child into a concise essay called the Spectrum Report, which describes the child's unique profile of strengths and weaknesses and makes specific recommendations for what can be done at home, in school, or in the larger community to support the child (Gardner,2006: 90-94).

The qualities found during the first year of the Spectrum program, as well as interviews with parents and teachers, continued to grow in the second year.

Spectrum was then extended to a number of preschools, kindergartens, and first-grade schools in a Boston suburb. Spectrum has uncovered abilities and inclinations that are normally overlooked in traditional schools at these educational institutions.

In many respects, the Key Learning Community in Indianapolis has proven to be a remarkable success. Aside from being the first and being recommended by Gardner himself, one of the school's guiding principles is the belief that each child's various intelligences should be cultivated on a regular basis. As a result, in addition to the normal curriculum, children engage in computing, music, and bodily-kinesthetic activities on a regular basis. Firstly, students take part in an apprenticeship-style workshop in which they collaborate with peers of various ages and a knowledgeable teacher in the subject matter. At one point, the classes

included everything from architecture to gardening. Because the courses focus on learning a real-world skill in an apprenticeship setting, the odds of obtaining actual understandings are increased.

The display of student projects relating to a theme is the last phase. The following five dimensions (Gardner, 2006: 116–117) are used to evaluate these initiatives and portfolios:

Individual profile: exposes the kids' shortcomings, talents, and preferences.

Mastery of facts, skills, and concepts: this section examines students' abilities to demonstrate their mastery of factual information.

Quality of work: Different genres (a humorous play, a mural, a science experiment) each has their own set of quality standards that may be used to assess them.

Communication: Students get the chance to communicate with a larger group of people.

Reflection: The ability to take a step back from one's job, monitor one's goals, review progress, and evaluate how well one is doing. Also crucial, learners may internalize these reflecting experiences so they can assess their own work even without the teacher. Students need schools scaffolding to complete their projects.

3.5.2. Arts Propel: Multiple Intelligences in High School

Over the last five decades, hundreds of academics have participated in Arts PROPEL, which began at Harvard Graduate School of Education's Project ZERO. The term "zero" in the name emphasizes that this field of study is still in its early stages.

Students, according to the Arts PROPEL approach, need to be exposed to the modes of thinking of individuals active in the arts, such as artists and those who study, criticize, and examine cultural contexts.

All learners should study all art forms in an ideal world, yet this is a utopia that would result in stressed-out and overburdened students. As a result, learners should be exposed to a variety of creative forms, including music, dance, and theater. Music, visual art, and innovative writing are the three art mediums in which PROPEL operates. Our research, on the

other hand, is focused on music as an art form. In our previous research, when students created choreography to explain school subjects (Ribeiro Daquila, 2014), the focus was on dancing (bodily-kinesthetic intelligence). Some themes were suggested, but students were encouraged to pick any topics that interested them. Three different competency types are examined. : production, perception, and reflection. . This triad of competencies is encapsulated by the acronym PROPEL, with the last L placing a focus on learning.

It's pointless to evaluate students' abilities or potentials if they haven't got any firsthand experience with appropriate artistic media. Teachers must analyze learners who are already engaged in creative pursuits in the same way that soccer scouts examine children who are already playing soccer. Learners' deficiencies might be worked on through creative writing, for example, by students who are creative at writing, putting up sketches or composing poems; or by creating a song, in the case of musically intelligent students.

In Arts PROPEL, a domain project with perceptual, creative, and reflective aspects was built for each skill (writing, music, and visual arts). Students are given an assignment: during the next week, they must examine their everyday environment for examples of various compositions, both existing compositions and compositions that they might build by "framing" a scene in nature. The participants are then expected to report on their compositions and create a final piece. Students must first state their intentions for this project; then, on a worksheet, they must state what they found most unexpected about their composition and what further adjustments they would want to make in a future project. The teacher gets his own evaluation form as well in which he / she evaluates the students' success in discovering interesting compositions in their environments or their capacity to draw comparisons between their works and those of well-known artists.

The portfolio, which Gardner refers to as processfolio, is another vehicle in addition to the domain project. Students include initial drawings, criticisms by themselves and others, and artworks they like or detest in their processfolios, in addition to final pieces. The Arts PROPEL classroom is designed to seem like a traditional atelier. Processfolios help students become more aware of their own strengths and flaws, as well as their ability to reflect properly, work on self-criticism, and make appropriate use of feedback from others.

In order to assess processfolio, four items need to be considered:

1. *Production*: Pondering in the Domain

Evidence: is found in the work itself, which is graded both by an outsider who examines drafts and completed products and by the classroom teacher. The craft, the pursuit, the innovation, and the expression of students' thoughts or sentiments are all considered.

2. Reflection: Analyzing the Domain

Evidence comes from the student's notebooks and sketchbooks, as well as observations of the student's comments in class; the instructor grades the reflection. Ability and proclivity to evaluate one's own work, capacity, and proclivity to assume the position of critic, ability and proclivity to utilize criticism constructively, ability to learn from other works of art, and ability to describe creative aims are among the factors.

3. Perception: Getting a Glimpse of the Domain

Evidence is gathered through the student's diary entries as well as observations of the student's remarks during evaluation sessions. The instructor evaluates the students' perceptions. Capacity to make nuanced distinctions among works in the area, knowledge of sensual components of experience, and understanding of physical features and qualities of materials are among the aspects examined (i.e., textures of different papers, timbres of instruments, sounds of words)

4. Approach to Work

Evidence may be found in the student's journal entries as well as observations of the student in class interactions. The teacher evaluates the students. Engagement, capacity to work independently, ability to collaborate, and ability to harness cultural resources are all factors considered.

Arts PROPEL received a tremendous award in the early 1990s when it was selected by *Newsweek* magazine as one of only two "model educational programs" in the United States of America. The project is still active, and Gardner is its coordinator.[49]

3.5.3. Contextual assessment as an alternative to standardized testing

Senior high school students taking official examinations is a quite regular scenario in both Spain and the United Arab Emirates. They wait anxiously for their examinations to be distributed, and then the formal testing starts after a few instructions. The outcomes of a morning's testing are significant for the children' future academic success. Instruments used for reasons like college entrance must be created in a way that allows students to highlight their strengths rather than their faults.

In addition to formal testing, the "apprenticeship type" is also used in sports and the arts. For example, in order to receive a grade, a dancer must execute a choreography, a basketball player must play a game, and a musician must play a Beethoven composition. Formal testing has received too much support. Gardner contends that the present perspective of the human mind and of learning is insufficient.

Due to Alfred Binet's work, IQ testing has been widely used since the early twentieth century. Nonetheless, work in developmental, cognitive, and educational research has shattered many of the assumptions on which this testing is founded in recent decades. When IQ tests were originally developed, the underlying theory of intelligence received little attention. A large amount of experimental evidence suggests that a test developed for one community cannot be immediately transferred to another culture. Every material bears the imprint of its origins. We may require a group of people rather than a single person to successfully assess. We should include eight crucial aspects if we were to create a new strategy to assessment today (Gardner, 2006: 180 -185):

[49] *Arts propel*. Retrieved from: http://www.pz.harvard.edu/projects/arts-propel

1. Assessment rather than testing is emphasized

The testing business has overstepped its bounds. An individual should be assessed, which means information about his or her potentials and talents should be gathered with the purpose of delivering meaningful feedback to both the individual and the surrounding community.

2. Evaluation as straightforward, natural, and occurring on a regular basis

Assessment should become a natural element of the learning environment rather than being imposed by external authority at set intervals throughout the year.

According to our research, all schools in Dubai and Abu Dhabi rely on examinations, with just a handful including evaluations into the process.

3. Assess a substantial connection with a criterion

Because their validity has never been satisfactorily proved, creativity tests are no longer widely employed. It is considerably more probable to generate significantly better predictions about an individual's performance when they are examined in scenarios that more closely reflect actual working conditions. It's strange that students spend hundreds of hours on a single exercise - the formal test – when few, if any, of them will ever come acrossa similar instrument once they've graduated.

4. “Intelligence- fair” instruments

The two types of intelligence that are most commonly measured are linguistic and logical-mathematical. Individuals who are endowed with these abilities are likely to perform well on the majority of formal examinations. Yet, people who struggle with their linguistic or logical-mathematical intelligences may do poorly or fail this formal test simply because they are unable to understand the structure of the majority of standard instruments. The answer would be to create instruments that are fair to intellect; for instance, musical intelligent students could be assessed by having students create songs or play instruments and sing along to learn math equations.

5. The use of a variety of techniques

A variety of techniques should be considered in order to access different aspects of the capability in issue. For example, IQ testing are the primary criterion for admittance to a talented children's program. If the cutoff is 130 and you have 129, you will not be considered. Wouldn't a trial period with other "talented" children and other non-aggressive tactics be fairer for these youngsters with an IQ of 129?

6. Individual differences, developmental stages, and types of expertise are all considered.

Formal testing must be modified to account for these known differences. However, several crucial formal test assumptions, such as individual homogeneity, would have to be suspended. These disparities must be properly explained to teachers, pedagogical coordinators, and tutors. Good instructors have long recognized that varied techniques work for different types of students.

A good assessment instrument can be a learning experience. It is desirable that students be assessed in the context of learners working on problems, projects or products that genuinely engage them.

8. Use of evaluation for the benefit of students

The way scores are used is appalling. Individuals receive their results, look at their percentile ratings, and make judgments about their potential. Most instructors spend much too much time ranking students and far too little time assisting them. Assessment should be done primarily for the benefit of pupils. The assessor should offer timely feedback to the student, such as highlighting areas of strength and weaknesses, recommending what to study or work on, and indicating what to expect in future assessments.

3.5.4. The necessity for a social context in education: Bottlenecks, Compensation, and catalysts

Both Spain and the United Arab Emirates continue to place an excessive emphasis on testing, and their cultures tend to overlook the benefits of interpersonal interactions, in part because they are difficult to quantify. Nonetheless, the formation of cooperative, supportive settings in families, schools, and communities has been found to have a good influence on kids' social and psychological

well-being in the United States of America. Alternative assessment methods must be created, leading to assessment environments in which students' involvement in meaningful tasks in society may be examined more closely.

Gardner advises focusing on how intelligences could act to impact performance since intelligences work hand in hand. Every person has a profile, which contains information on their intelligences. Almost everyone's profile has peaks and troughs, which represent their strengths and weaknesses. Gardner discovered two sorts of profiles – laser and searchlight – as we discussed in section 3.5. One or two intelligences stand out among the rest in a laser profile, and these intelligences generally decide a person's professional path. Several intelligences are balanced in searchlight profiles.

Gardner provides three more ways in which various intelligences might influence one other, in addition to these two profiles: bottleneck, compensation, and catalyst. A bottleneck occurs when one intellect is blocked by another. For example, a person with low linguistic intelligence may be unable to convey her interpersonal intelligence because she is unable to communicate effectively. Compensation, on the other hand, happens when one intelligence aids the success of the other. That would be the case, for example, with a strong bodily intelligent individual who communicates by gestures and other nonverbal actions. A catalytic intelligence can either initiate or change the way another intelligence works. For example, a person with high musical intelligence may be more conscious of the rhythmic aspects of a verbal assignment.

3.6. M I in the Classroom and the MIDAS

Thomas Armstrong initially released Multiple Intelligences in the Classroom in 1994. This book is important in MI literature since it is the first compendium of MI that is solely focused on the classroom. The author trains the instructor to work with MI. A checklist is supplied for each intelligence, and instructors can find out the intelligences in which they excel or fail. Aside from the 10 items listed in each of the checklist's intelligences, the instructor is encouraged to consider and write down additional items not particularly mentioned in the checklist. If a teacher, for example, lacks ideas for bringing music into the classroom due to a lack of musical intelligence, he should seek assistance from the school's musical teacher, a musically intelligent colleague, or even a musically intelligent student; in

fact, all students can assist the teacher by making up lyrics or bringing in or manufacturing instruments.

Multiple Intelligences Developmental Assessment Scales is a more comprehensive version of the checklist suggested by Thomas Armstrong (1994). (MIDAS). Branton Shearer developed the MIDAS to improve a person's intellectual capacity, professional advancement, and sense of fulfillment (Shearer, 1994).

The MIDAS is a multiple intelligences self-report assessment that has been created to provide a quantitative and qualitative profile of an individual's "intellectual disposition" that can be validated and relied upon. The MIDAS is designed to solve a number of critical flaws and concerns that have emerged as a result of the widespread use of fast MI checklists. There is a MIDAS for teens with 119 questions, a MIDAS-KIDS with 93 things for children (9–14 years old) and 70 items for early children (4–8 years old), and a MIDAS-KIDS with 93 items for children (9–14 years old). These questions underwent a thorough refining and selection procedure (Shearer, 1994), which included qualitative assessment by subject area specialists - including Howard Gardner - and several statistical tests involving a diverse group of people.

The 119 questions are answered by choosing from six descriptive sentences rather than the typical yes/no or vague numerical response seen on most MI checklists. For instance, one question from MIDAS is: “Are you good at finding your way around new buildings or city streets?” The six possible responses are: Not at all, Fairly good, Good, Very good, Excellent, I don’t know or Does not apply.

MIDAS has been widely used in American schools; for example, one instructor was shocked to see that her morning algebra group had many kids with poor logical-mathematical intelligence, whereas her noon algebra group had few.

3.6.1. Identifying students’ intelligences

Following his work in making instructors aware of their own limitations and strengths, Thomas Armstrong turns his attention to how teachers may detect children' most developed intelligences so that more of their learning in school can be done using their favorite intelligences. This chapter is critical to understanding our study since we are using music and imagery to teach grammar and phonetics to participants who have musical preferences (spatial intelligence). The author continuously

reminds instructors that most kids excel in a variety of subjects and should not be pigeonholed into a single intellect. Then, as shown in Table 3.2 on the next page, he gives brief descriptions of the abilities of pupils who show preferences in certain intelligences.

Table 3.2. Eight ways of learning

Eight ways of learning			
Students who are highly...	Think...	Love...	Need...
Linguistic	in words	writing, storytelling, word games, and reading	books, recordings, writing gadgets, paper, journals, conversations, debates, and stories
Spatial	in images and pictures	designing, drawing, visualizing, doodling	Legos, films, movies, slideshows, games that require creativity, mazes, riddles, picture books, and visits to art museums
Bodily-kinesthetic	through somatic sensations	dancing, running, jumping, building, touching, gesturing	role-play, drama, movement, building things, sports and physical games, tactile experiences, hands-on learning
Musical	via rhythms and melodies	singing, whistling, humming, tapping feet and hands, listening	sing-along time, trips to concerts, playing music at home and school, musical instruments
Interpersonal	by bouncing ideas off other people	leading, organizing, relating, manipulating, mediating, partying	friends, group games, social gatherings, community, events, clubs, mentors / apprenticeship
Intrapersonal	in relation to their needs, feelings and goals	setting goals, meditating, dreaming, planning, reflecting	secret places, time alone, self-paced projects, choices

According to Armstrong, no test currently available on the market can give a thorough assessment of a student's many intelligences. Observation, however, is the finest method for judging kids' intelligences. Observing how kids misbehave in class is an excellent approach to discover their most highly developed intelligences. The linguistically strong student will speak out of turn, the highly spatial student will draw and daydream, the interpersonal student will socialize, and so on.

Subsequently, the author suggests that pupils be taught MI theory. Students benefit from instructional techniques that allow them to reflect on their own learning processes, according to research in cognitive psychology applied to education (Marzano et al., 1988). Explaining MI theory to kids is the most straightforward method. The author has a strong ability to describe MI theory in a way that is easy to follow, and he provides a variety of exercises to teach MI theory to students. The book's strengths include Armstrong's use of a simpler language than Howard Gardner and his unique connection of MI theory to the classroom setting. Not only does the author provide the theory, but he also includes hundreds of hands-on exercises.

3.6.2. How to prepare MI lessons and assess MI students

In the following chapter regarding MI class preparation, Armstrong again provides a ton of examples using various disciplines to show how a MI class may be organized. Regardless of the reader's learning style, the author constantly keeps the eight intelligences in mind so that there is always at least one example for each intelligence. This enables all readers to fully grasp how a MI lesson is designed. As stated in Table 3.3 below, reflection is essential while planning a MI lesson, and Armstrong offers a list of questions to ensure that the instructor doesn't forget to incorporate a majority of the intelligences. After posing the MI questions to oneself, teachers should decide which of the methods and materials seem most suitable for the activity they have in mind, and also think about other possibilities not listed.

Table 3.3. MI Planning Questions

Linguistic How shall I use spoken or written word?	**Musical** How shall I introduce music, or environmental sounds or set key point in a rhythmic or melodic framework?
OBJECTIVE	
Intrapersonal: How shall I evoke personal feelings or memories or give students choices?	**Interpersonal:** How shall I engage students in peer sharing, cooperative learning or large group simulation?
Spatial: How shall I use visual aids, visualization, color, art, or metaphor?	**Bodily-kinesthetic:** How shall I involve the entire body or use hands-on experience?

Teachers are urged to reflect on their lessons once they are over by identifying the aspects that went well and poorly. Armstrong provides five techniques for each intellect in the next chapter, giving teachers extra options with which to organize their lessons. He proposes brainstorming, journaling, audio registration, storytelling, and publishing for linguistic intelligence. Calculations and quantifications, classifications and categorizations, Socratic questioning, heuristics, and scientific reasoning are some of the suggested techniques for logical-mathematical reasoning. Visualization, color cues, image metaphors, concept sketching, and graphic symbols are suggested for spatial intelligence. Body replies, class theater, kinesthetic ideas (students transform knowledge from linguistic or logical symbol systems into simply bodily-kinesthetic expression), and hands-on thinking are the tactics for developing bodily-kinesthetic intelligence. In the 20th century, marketers realized that catchy songs may help consumers recall their brands. Yet, educators have taken longer to acknowledge the value of music in education. Rhythms, songs, raps, and chanting; discographies; super-memory music (students listen to the teacher's instructions while music plays); musical ideas; and super-memory music are Armstrong's five tactics for musical intelligence. For instance, in a lesson on Romeo and Juliet, play two pieces of music that are tense for the Montagues and the Capulets and then two quieter musical patterns that are in harmony with one another for Romeo and Juliet. The teacher can also play mood music, which sets the right mood for a particular lesson or unit.

Armstrong recommends the following interpersonal intelligence techniques:

- Peer sharing: Students can create people sculptures to represent spelling words by having each student hold a letter or to symbolize sentences by having each student act as a word.

- Collaborative teams (use of small groups)

- Board games

- Simulations, where students work in groups to develop a "as-if" scenario (this activity also deals with bodily-kinesthetic intelligence).

The one-minute reflection period, personal connections (teachers relate what is being taught to students' own experiences), decision time, feeling-toned moments (educators need to educate with emotion), and goal-setting sessions are the five tactics for intrapersonal intelligence. Last but not least, the strategies for the naturalist intelligence include nature hikes, windows onto learning (looking out the window to teach about the weather, bird watching, seasons' effects on trees, and plants), plants in the classroom, pets in the classroom, and eco-studies (Whatever is being taught, we should bear in mind how it relates to the ecology of the planet. For example, when teaching percentage, a teacher can urge students to look into how much rain forest is still there in Brazil now compared to how much was there in 1900.).

In the book Multiple Intelligences in the classroom, we learn that the most critical requirement to meaningful evaluation is observation. In Table 3.4, Armstrong's suggestion for the MI evaluation is shown below:

Table 3.4. Armstrong's framework for MI assessment

Activity/ assessment	**Linguistic Activity**	**Logical-Mathemati-cal Activity**	**Spatial Activity**	**Musical Activity**	**Bodily-Kinesthetic Activity**	**Inter-personal Activity**	**Intra-personal Activity**	**Natural-ist Activity**
Linguistic evaluation	after reading a book, write a reply.	Analyze a graph of statistics and then write an answer.	watch a film and after that write a response	listen to a piece of music, then write a response	go on a mountain trip, then write a response	play a coopera-tive game, then write a response	think about a personal experience	explore nature, then write a response
Spatial evaluation	read a book, then draw a picture	examine a statistical chart, then draw a picture	watch a movie, then draw a picture	listen to a piece of music, then draw a picture	go on a field trip, then draw a picture	play a co-operative game, then draw a picture	think about a personal experience, then draw a picture	explore nature, then draw a picture
Bodily-kinesthetic evaluation	read a book, then build a model	examine a statistical chart, then build a model	watch a film, then build a model	listen to a piece of music, then build a model	go on a field trip, then build a model	play a co-operative game, then build a model	think about a personal experience, then build a model	explore nature, then build a model

Musical evaluation	read a book, then create a song	examine a statistical chart, then create a song	watch a movie, then create a song	listen to a piece of music, then create a song	go on a field trip, then create a song	play a co-operative game, then create a song	think about a personal experience, then create a song	explore nature, then create a song
Interpersonal evaluation	read a book, then share with a friend	examine a statistical chart, then share with a friend	watch a film, then share with a friend	listen to a piece of music, then share with a friend	go on a field trip, then share with a friend	play a co-operative game, then share with a friend	think about a personal experience, then share with a friend	explore nature, then share with a friend
Intrapersonal evaluation	read a book, then design your own answer	examine a statistical chart, then design your own answer	watch a film, then create your own answer	listen to a piece of music, then create your own answer	go on a field, trip, then design your own answer	play a co-operative game, then design your won answer	think about a personal experience, then design your own answer	explore nature, then design your own answer

3.6.3. Cognitive skills in MI

Since the introduction of cognitive psychology as the dominant paradigm in education, educators have become more and more interested in assisting learners in developing thinking processes. The model's eight intelligences are cognitive skills in and of themselves. As a result, by developing any or all of them, we are assisting in the development of learners' ability to think. Consider how MI theory applies to memory, problem solving, and other types of higher-order thinking, such as Bloom's levels of cognitive complexity.[50]

The issue of learners' recollections has always appeared to bother educators. MI offers a useful viewpoint on this educational issue. Students' weak recall might be due to one or both of the intelligence categories that are most heavily stressed in school: linguistic and logical-mathematical intelligences. The answer may lay in assisting these children in regaining access to their positive memories. Spelling issues, for example, can be solved with the help of other intelligences. Singing while spelling a word is a good way to employ musical intelligence. To the tune of "twin-kle twin-kle lit-tle star," students may spell any seven-letter word (each syllable represents one letter). As in the choreography of Village People's renowned song

[50] Benjamin Bloom (1913 – 1999) was an American psychologist. Bloom identified six levels within the cognitive domain, from the simplest to the most complex and abstract mental level.

Y.M.C.A., bodily-kinesthetic intelligence may be utilized to spell words by utilizing the body to represent the letters. Y.M.C.A. by Village People[51]; students can also use hands-on activities to mold spelling words in clay. Interpersonal intelligence can be applied by assigning one letter to each student in a group and as a word is called, the students make a line in the correctorder to form the spelled the word.

Pupils' problem-solving abilities in the United States have been deemed to be in need of substantial development (Lemke et al., 2004); as a result, more educators are looking for strategies to assist students think more effectively when faced with academic challenges. Unfortunately, the critical-thinking movement has placed a heavy emphasis on logical-mathematical reasoning skills, as well as the use of self-talk and other language tactics. According to MI theory, thinking extends much beyond these two regions. Musicians, for example, employ a totally distinct type of problem-solving method called musical imagery. "Nor do I hear in my mind the pieces [of the work] progressively, but I hear them, as it were, all at once," Mozart said of his composing process. I can't tell you how much fun this is. All of this invention happens in the midst of a pleasant, active dream" (Ghiselin, 1955: 45). The following are some MI problem-solving tactics that students might apply in an academic setting:

- Linguistic– self-talk or thinking out loud
- Logical-mathematical – logical heuristics
- Spatial – visualization, ideas sketching, mind-mapping
- Bodily-kinesthetic – Kinesthetic imagery, accessing gut feelings or using one's hands, fingers, or whole body to solve problems

[51]One of the most recognizable musical ensembles in the world, Village People was founded in 1977. Their music has become part of the international songbook. Several big-budget films, Broadway productions, advertisements, and "Village People Party" slot machines all use the band's songs. Naturally, Y.M.C.A. (together with its dance) is played at practically all gatherings, including weddings, bar mitzvahs, athletic events, and parties. https://villagepeople.com/history.html

- Musical – sensing the rhythm or melody of a problem, using music to unlock problem-solving capacities
- Interpersonal – bouncing ideas off other people
- Intrapersonal – identifying with the problem; accessing dream imagery, personal feelings that relate to the problem; deep introspection
- Naturalist – using analogies from nature to envision problems and solutions

Bloom's level of cognitive complexity (1956) encompasses six levels of complexity that educators may use to guarantee that training stimulates and develops students' higher-order thinking abilities. The six tiers are as follows:

1. Memorization - Rote memory skills (knowing facts, terms, procedures, classification systems)
2. Comprehension – The ability to translate, paraphrase, interpret, or extrapolate content
3. Application – The ability to transfer knowledge from one situation to another
4. Analysis – Identifying and distinguishing the constituent components of a greater whole
5. Synthesis - Bringing disparate pieces together to form a whole
6. Evaluation - Using a set of criteria, determining the value or usability of information.

All of Bloom's degrees of cognitive complexity may be incorporated into MI curriculum. Armstrong shows how a teacher may express abilities that cover all eight intelligences as well as Bloom's six levels of cognitive complexity in Table 3.5.

Table 3.5. MI Theory and Bloom's Taxonomy
Ecology Unit: Local Environment – trees in your neighborhood

Intelligence	**Knowl-edge**	**Compre-hension**	**Applica -tion**	**Analysis**	**Synthesis**	**Evaluation**
Linguistic	memorize names of trees	explain how trees get nutrition	given descrip-tion of trees diseases, suggest cause of each disease	describe how each branch of a tree interacts with the rest of the tree.	Write an essay outlining a tree's life cycle, from pre-seed to post-seed.	evaluate the various techniques for regulating tree growth
Spatial	remember basic configura-tions of	look at diagrams of trees and tell what stage of	use geometric principles to determine height of tree	draw cellular structure of tree root	create a landscaping plan using trees as	Assess practicality of different landscaping plans

	specific trees	growth they are in			central feature	
Bodily-Kinesthetic	identify tree by the feel of the bark	given array of tree fruits, identify seeds	given type of local tree, find an ideal location for planting it	create different parts of tree from clay	gather all materials needed for planting a tree	evaluate the quality of different kinds of fruit
Musical	remember songs that deal with trees	explain how old tree songs came into being	change the lyrics of an old tree song to reflect contemporary issues	classify songs by issue and historical period	create your own tree song based on information in this unit	rate the song from best to worst and give reasons for your choices
Interpersonal	record answers to the question "What's your favorite tree?"	determine the most popular tree in class by interviewing others	use survey results to pick location for field trip to orchard	classify kids into groups according to favorite tree	arrange field trip to orchard by contacting necessary people	rank three methods to ask others about tree preference
Intrapersonal	remember a time you climbed tree	share the primary feeling you had while up in the tree	develop "tree-climbing rules" based on your experience	divide up your experience into "beginning, middle and end"	plan a tree-climbing expedition based on your past experience	explain what you liked best and least about your experience

In order to fulfill the needs of students with different intelligences and cognitive abilities, Armstrong reminds teachers that they are not required to include all of these activities in a single unit. Instead, they may utilize the instructional model as a road map to stay on course. MI theory is a notion that can assist educators proceed through a range of sophisticated cognitive tasks that help learners prepare for life.

3.6.4. Computer technology, racial pluralism, and career counseling applications of MI theory

MI theory provides a framework for expanding current knowledge and resources to encompass a larger view of computing technology, cultural diversity, and career guidance. We link computers with logical-mathematical intellect because of stereotypical pictures of computer users working on spreadsheets or programming languages. Computers, on the other hand, are intelligence-neutral systems. A computer's software, which may be built to interact with any or all of the eight intelligences, is what will make the difference. Educators may utilize MI theory to help them choose and make software available for use in the classroom or in school computer

labs. A project including text (linguistic), pictures (spatial), sound (musical or linguistic), and video (bodily-kinesthetic and other intelligences) can be created using multimedia software.

The United Arab Emirates have seen huge demographic shifts in the last two decades, resulting in a student population that is more racially, ethnically, and culturally varied than ever before. Teachers face a significant difficulty in establishing curriculum that are attentive to cultural variations not just in content but also in procedure. To be regarded a real intelligence, according to MI theory, an intelligence must be valued by a culture. Many of the tasks that have historically been linked with IQ testing in schools are immediately disqualified by this criterion. For example, some IQ tests include an exercise that requires you to recall random digits. No society in the world, however, passes on random digits to the following generation.

Stories, myths, beliefs, scientific discoveries, and political structures are examples of what civilizations pass down to their younger members. Residents of the Puluwat culture in the South Sea Islands place a great value on spatial and naturalist intelligences, whereas other civilizations dismiss these intelligences.

3.7. MI in the United Arabs Emirates

According to a study (Rile, Catalan et. al. 2014), not much literature has been written in the UAE. 12 students out of the 125 with learning disabilities from learning institutions in the UAE considered themselves to be naturalists, musicians, mathematicians, bodily-kinesthetic, intrapersonal, and visual. Only 9.8 percent and 9.7 percent of people rated their IQ as interpersonal and linguistic, respectively. According to the experts, the traditional school system in the UAE is to blame for the lack of MI: a lack of instructional resources and bad teaching. One limitation of this study is that it focused solely on pupils, ignoring the involvement of teachers.

3.8. Pronunciation-related factors in learning a second language

As our experimental groups are trained in the areas of English prepositions and pronunciation in the second part of study, we present below some important literature regarding the latter.

3.8.1. The Direct Method

L. Sauveur, a French writer, invented the Direct Method in reaction to the Grammar-Translation method (Levy, 1878). This is one of the earliest approaches to teaching language that focuses on sound recognition. The name "Direct Method" derives from the fact that meaning is transferred directly into the second language using demonstration and visual aids. It aimed to immerse the learner in the same manner as learning a first language does. As a result, speech is taught before reading or writing (Escher,1920). For as long as feasible, the printed word should be kept away from the second language learner. Demonstration, objects, and pictures are used to teach concrete vocabulary, whereas association of words is used to teach abstract vocabulary. It became popular in the late 1800s. Students would try to approach a model of the L2 that was spoken by the teacher (and subsequently by registrations) by imitating it and repeating it. This is the foundation of Asher's (1977) *Total Physical Response* and Krashen and Terrell's (1983) *Natural Approach*. These models' technique entails extensive listening comprehension that lasts for a long time before any speech is permitted. The first concentrate on hearing without the urge to speak, according to proponents of these naturalistic techniques, allows learners to absorb the target sound system. Despite never having had specific instruction, learners' pronunciation is said to be fairly good when they do speak afterwards (Celce-Murcia et al. 1996).

Nevertheless, it might be claimed that speakers often integrate a new phoneme they don't have in their mother tongue to a related one of the L2. Spanish speakers in Spain, for example, do not discriminate between the sounds /v/ and /b/ in their production, so they do not distinguish between the words ***v**ery* & ***b**erry,* assimilating both sounds to something in between, not bilabial, blocking completely the passage of the air as in /b/and not so open as in /v/. Hence, the closest sound to /v/ and /b/ in Spanish is /β/. Spaniards and Arabs also tend to approximate the sound /æ/ as in c**a**t and b**a**d to the sound /a/ as in c**a**r, as the latter corresponds to the typical sound of the letter 'a' in Spanish, as in *c**a**rro (car) and in Arabic **A**n**a*** (the pronoun "I"). Nonetheless, learners who are teenagers or older may not be aware of these distinctions if their attention is not explicitly taught. The age factor and the incorporation of L2 sounds into the L1 inventory will be discussed later in greater depth.

3.8.2. The Reform Movement

Henry Sweet, Wilhelm Viëtor, and Paul Passy, the creators of the International Phonetic Alphabet (IPA), pioneered an approach in language education known as the Reform Movement in the 1890s (Carey, 2002). Not only did these phoneticians work together for approximately two decades toward a unified educational goal, but they also succeeded in persuading teachers and others in the profession to the same cause. This approach was a spectacular show of worldwide and multidisciplinary cooperation in which phoneticians took an equal interest in the classroom as teachers did in the emerging science of phonetics. They advocated the following guidelines (Celce-Murcia et al. 1996, p.3):

(1) The spoken form of a language is crucial and should be taught prior to writing

(2) Phonetics discoveries should be used to language education

(3) Teachers should have excellent phonetics training.

(4) Phonetic training should be provided to students in order to help them develop healthy pronunciation habits.

These standards, which were set over two centuries ago, are still relevant today. They are used in this paper's pronunciation experiment, as well as a subsequent idea of the phoneme as a minimally distinguishable sound (Bloomfield 1933). Point (1) says that pupils should be taught the spoken form of a language first, so that they do not assimilate the written sound to their own language. For example, when students hear the word very, they will most likely associate /v/ with the Spanish /β/. The likelihood of learners succeeding is significantly better if instructors use the term *very*, encourage students to pay attention to the instructors' mouth, and make it obvious that the lips do not touch. Aside from that, point (1) denotes a move away from reading and writing. Point (2) suggests that instructors must be aware of phonetic research's degree of importance before employing it in the classroom. The third point is maybe the most crucial: Students are more likely to understand phonetics if teachers have a broad understanding of the subject and are trained how to communicate it effectively, as point (4) suggests.

Perhaps the easiest way to understand the Reform Movement's extent is to set up a 'bird's-eye perspective' of its accomplishments from 1882, when it initially

attained recognition, until the Movement at the turn of the century reached its climax with the appearance of two works which together provide a definite statement of its aims, principles and practical classroom methods. The first was Sweet's classic *The Practical Study of Languages* was first printed in 1899. The second was Jespersen's *How to teach a foreign language* (1904) (Howatt 2004, p.189).

3.8.3. Audiolingualism and the Oral Approach

In the 1940s and 1950s, the introduction of the earlier analytic linguistic approach to pronunciation pedagogy sparked a massive movement. Audiolingualism and the Oral Approach in the United States and the United Kingdom, respectively. The explicit teaching of phonological components of language was the foundation for these two methodologies (Carey, 2002), which replicated the Direct Method by depending on a recording or the teacher modeling the target language, which was then repeated by the pupils. The habit- formation theories were mostly used in audiolingualism. The instructor not only used their phonetics skills, but also employed simplified IPA and articulatory models in the classroom forthe first time. The practice of using minimal pairs for listening practice and oral production was introduced. This technique was based on the concept of the phoneme as a minimally distinctive sound (Bloomfield 1933) and was used, and indeed *overused* by Baker (1977) in her very popular course book on contrastive segmental instruction *Ship or Sheep*?

Given that the use of minimal pairs elicits the distinctions between two comparable sounds that differ in only one phonological aspect, such as one voiced and the other unvoiced, its use in the classroom is particularly beneficial (Garca & Mora 2009). By simply letting students know that the usage of the vocal folds distinguishes between the two sounds of /s/ and /z/, for example, this helps Spanish-speaking monolingual pupils comprehend the distinctions between the two.

3.8.4. The Audiovisual Method

The audiovisual method first debuted in France in the early 1960s as a consequence of findings from the CREDIF (Centre de Recherche et d'Étude pour la Diffusion du Français) (Howatt, 2004). The worldwide status of English and French as foreign languages, as well as their spheres of influence, are distinct. Due to the contextual and semantic linguistics in which

it is inspired, as well as the global and synthetic perspective of the learning process, the widespread use of English has diluted the significant contributions that the audiovisual approach has made. The usage of filmstrips was a creative way to put utterances into context and give them a lot of significance. This methodology rejects the emptiness of formallanguage structures in favor of a contextualized and meaningful answer. It restores the social and situational aspect of the foreign language. As a result, communication is the goal. Learning is examined through the lens of Gestalt psychology, which emphasizes the relevanceof the global and unanalyzed mechanisms for perception prior to any form of analysis: from a complete perspective to its constituent pieces. It also claims to take an inductive approach,in which abstract concepts are deduced from particular examples or experiences. The exclusiveness of induced approaches and the relationship between images and meanings might be misinterpreted, according to critics of this method.

3.8.5. The Cognitive Approach

The Transformational-generative grammar, sometimes known as Universal Grammar, (UG) was a popular approach. According to UG, which is credited to Chomsky (1965), there are a number of grammar principles that apply to all languages and that explainhow humans learn their first and subsequent languages as well as why they are frequently able to do so despite the fact that there isn't enough evidence to support some of the structures. Theoretically, access to UG for L2 learning may be full, partial, or dual (Ellis, 1997).The so-called "gifted" learners, of which one will shortly be discussed in this work, serve as anexample of learners having full access to UG. Students without access would rely on commonlearning techniques and never become fully competent. Only with the aid of direct teaching will learners with limited access be able to transition to L2 parameter settings. Finally, dual access learners will use both UG and general learning techniques, but UG will be inhibited bygeneral strategies, resulting in "impossible" mistakes. Language is basically rule-governed activity, according to UG, and is not learned by habits. Because its proponents argued that native-like pronunciation was an unrealistic goal that could not be achieved (Scovel 1969), this viewpoint, which gained widespread acceptance in English language teaching circles, de-emphasized the role of pronunciation in language acquisition teaching methods in favor of grammar and vocabulary. Secondly, as stated by Celce-Murcia et al. (1996), time is more effectively spent on teaching more learnable elements, such as grammatical structures and

vocabulary. Learners without access would rely on generic learning tactics and never master the material.

The cognitive method is focused on cognitive functions including memory and problem-solving. It contrasts with behaviorism, which generally disregards mental processes, by placing an emphasis on mental processes. But, in many respects, the behaviorist approach and the development of the cognitive method throughout the first half of the 20th century are interwoven.

For instance, cognitive pioneer Edwin Tolman identified as a behaviorist despite his work on "cognitive maps" in rats making him a household name. Similar to this, David Krech's (real name Ivan Krechevsky) research on maze learning theories was based on behaviorist methods of observation and evaluation. The cognitive method is one of the most popular theories in modern psychology, surpassing behaviorism in terms of popularity.

We believe that cognitivism might be seen as a fatalistic approach since it assumes that phonetics is difficult and that there is nothing that can be done to improve it. Phonetics is a complicated topic, yet this does not make it any less significant. Pronunciation issues can be addressed if we refer back to the principles of the Reform Movement (3.8.2). Pronunciation may be taught at any level, for illustration, a teacher might instruct: "Open up your mouth to generate the sound /ae/, like in apple". In order to demonstrate that students may improve their pronunciation by explicitly teaching phonetics, an experimental group that underwent phonetic instruction was employed in our study (Ribeiro Daquila, 2011). Three years later, another experimental group was used (Ribeiro Daquila, 2014), which consisted of dancers, received explicitly phonetic training with the aid of bodily-kinesthetic intelligence and bettered their results by more than 50%. Now this study intends to confirm our previous results by training Emirati participants with the aid of music to improve pronunciation and grammar, more specifically, prepositions.

3.8.6. The Silent Way

With the advent of the Silent Way, pronunciation gained popularity in the early 1970s (Gattegno 1972). The Subordination of Teaching to Learning was the focus of a much larger topic that Dr. Caleb Gattegno of Alexandria, Egypt, dedicated his life to. He believed that

effective teaching must always be in line with the requirements of learning, and he spent the most of his life figuring out what those requirements may be. Traditional instruction, according to Gattegno, is excessively focused on rote memorization rather than training pupils' awareness, which he said is the only aspect of human nature that is educable. Throughout the years, he applied his understanding of awareness and learning to common school disciplines like arithmetic, reading, and language instruction, completely reinventing each one in the process. Gattegno would instruct students in Arabic, Hindi, English, or Spanish "the Silent Way" without ever using a single word in an effort to demonstrate to instructors that teaching a language should place more emphasis on fostering awareness than on repetition and explanation. Gattegno's lessons were so wildly popular, whether he was instructing in languages, mathematics, or adult literacy, that he was commonly referred to as "The World's Best Teacher." Segmentals and suprasegmentals are emphasized from the very beginning of education in this approach, which is still used in the United States. As the name implies, this approach minimizes instructor's speech. The teacher works to make sure that the students discover things by themselves, obtain their own insights into how the language functions, set up their own standards for correctness, gain knowledge, and, most importantly, get to be autonomous as language learners and speakers by reliance on the students' mental faculties, experience, and acquired skills. The teacher demonstrates for the class what is expected of them through gestures rather than lengthy articulatory and phonetic explanations. Instructors can model the location and style of articulation using their own lips, throat, or a hand puppet representing the tongue and oral cavity, as well as hold up their fingers to show the number of syllables in a word and tap out rhythmic patterns. Visual teaching tools that have been successful in helping second language learners understand some of the more abstract concepts of pronunciation are also essential to the Silent Way:

- • *Sound-color chart*. For convenience of reference, each phoneme on a phonemic chart is given a color and is referred to by that color.
- *Fidel wall charts*. A method of color classification that divides the patterns of letter to sound into phonetic bundles. A color is assigned to each letter or set of letters that constitutes an English phoneme.

- *Cuisenaire rods*. These colorful pieces of wood, which have different lengths, are also used to teach youngsters fundamental numeracy skills in the classroom. Rods can be used to construct and graphically display vowel length, lexical stress, and intonation patterns.

An ultimate instruction in phonetics may result from combining the principles of the Reform Movement, the utilization of minimum pairs, and the Silent Way's methods. The discoveries of phonetics should be used to language education, not a new finding to the exclusion of the others, as the Reform Movement suggested in guideline (2). Regrettably, few instructors really use these concepts in the classroom. In this study for example, we made use of the sound-color chart in our trainings; every time the participants faced the phoneme /æ/, as in apple, it was associated with the color red.

3.8.7. The Communicative Approach

The 1980s saw the rise to popularity of the current dominant technique, which still endures today despite criticism from certain areas (Carey, 2002). As much as one teaching approach tends to affect another, it has a wide range of antecedents. It may be stated that educators and linguists who had become tired of the audiolingual and grammar-translation approaches to foreign language training gave rise to the communicative approach. They believed that not enough actual, complete language was being taught. Students were unable to communicate in the culture of the language they were learning because they lacked the necessary social language, gestures, and emotions. In the 1970s, interest in and advancement of communicative-style education exploded: Real conversation between students in the classroom and the use of authentic language both gained popularity. According to the communicative approach, oral communication is the main way that people use language, hence it should be emphasized throughout education. Even if this method of training does not specifically address pronunciation, it has still brought attention to the subject. It has been acknowledged that by emphasizing active communication in the classroom, pronouncing skill below a particular threshold makes even a highly grammatically and lexically proficient learner incomprehensible (Hinofotis & Bailey 1980).

The instructor using the Communicative Method has numerous additional issues as a result of the heightened emphasis on pronunciation. One issue is that the discourse-based Communicative Method does not naturally integrate with earlier pronunciation education strategies since they were artificial and teacher-centered (see Brumfit and Johnson 1979). A generation of instructors who were uninterested in and occasionally undertrained in the teaching of pronunciation developed as a consequence of teacher training techniques focusing on the Communicative Approach and the tightly followed Presentation, Practice, Production (PPP) model of instruction.

Material creators have created resources that emphasize suprasegmental components of pronunciation in an effort to maintain communicative pronunciation. The integration of pronunciation was often only given significant consideration by material creators in the 1980s, and it was mostly relegated to the margins to be taught separately by practitioners who were still convinced of its value and educated about its form and function.

Phonetics was not used as frequently after the Audiolingual Approach or Audiolingualism, but it began to gain popularity once more in the 1990s. Nowadays, communication is the most crucial component of learning a foreign language, thus clarity is valued over a pronunciation that sounds like a native speaker. This study aims to highlight the value of phonetics in the classroom by demonstrating how individuals do substantially better on phonetic tests after receiving more explicit instruction from their instructors. Students develop their oral output as well as their perception. Students who are making development with their perception are able to comprehend listening exercises, television shows, and movies better; students who are making improvement with their oral output are able to talk more clearly and effectively.

3.8.8. Psycholinguistics

Psycholinguistics, the part of linguistics that investigates the mental processes involved in language learning and language usage, is an important field to consider while researching pronunciation (Ellis, 1997). First language transfer, often known as L1 transfer, is debatably the field of psycholinguistics that has attracted the most research. The transfers for second-language (hereinafter referred to as L2) learners are the zero transfer, which describes the situation where a structure or sound present in the L2 is not a feature of the L1,

the negative transfer, which takes place when an L1 feature is present in the L2 but not in the same environment or distribution, and the positive transfer (Nunan, 2000), the circumstance where the L1 and L2 share characteristics in terms of their features and their distribution.

Not only does this transfer occur in the phonological level, but also in the grammar of a language. In research on the effect of L1 Emirati Arabic proficiency on the L2 English of Emirati 14-year-old students, Abud Ghwaileh (2014) focused on the errors occurred due to the negative transfer from colloquial Arabic while writing in English. Some of these errors were regarding prepositions, which will be one of the aspects analyzed later in this study. Examples of Arab students' errors were previously provided in this study (see, 2.2.8.).

An early model to consider transfer effects is the Contrastive Analysis Hypothesis (CAH). According to CAH, the discrepancies between L1 and L2 are to blame for the problems in L2 speech. It was believed that the aspects of L2 that the learner was already familiar with from L1 would be simple to learn, but the elements that were unique from L1 would be challenging. The CAH lost popularity in part because it was easy to discover examples of learners who did not struggle with novel and unusual phonemes in the L2. Flege's Speech Learning Model (SLM) (1995), inspired by the CAH, asserts that learning new sounds would be facilitated by forcing the learner to categorize them into new groups. SLM is inconsistent with this study since the subjects assimilated the majority of the L2 sounds to their L1. For example, numerous /p/ sounds, as in **P**atrick, were connected with the Arabic letter **B**, as in "**b**a**b**a" (daddy), which sound is the same as the English /b/, as in **b**all.

The Perceptual Assimilation Model (PAM), which emphasizes the actions of non-native listeners, is a loose echo of Flege's SLM (Best, 1995). It suggests that the perceived resemblance of L2 categories to L1 categories may be used to determine how difficult nonnative contrast discrimination will be. In other words, PAM takes the L1 phonological system into account when explaining how learners perceive non-native sounds. According to PAM's proposal, the degree to which nonnative sounds are absorbed into L1 phonemic categories will depend on their articulatory properties. In turn, the learner's capacity to recognize any contrast will depend on how well the nonnative sound has been assimilated.

The function of consciousness is a topic that psycholinguistics also addresses. Krashen's (1981) Theory of Second Language Acquisition (SLA) suggests the need to separate "acquired" L2 information from "learned" L2 knowledge. SLA may be traced back to

discussions on the function of awareness. Schmidt addressed the then overgeneralized usage of the word "consciousness" in SLA after his assertion that they were knowledge systems distinct from one another eventually sparked controversy. In the end, Schmidt (1990, 1993) claimed that awareness may take on many different forms, including "intentionality" and "attention," and that observation is crucial in learning. Almost a decade of study on the interactions of attention, awareness, noticing, and many other elements has resulted from Schmidt's theories on the role of consciousness in learning. It is less apparent how consciousness affects L2 speech perception and acquisition. According to the information that has been evaluated so far, learning the sounds of the L1 appears to occur automatically, requiring little conscious attention. Contrarily, it is at the unconscious level where attention is mostly required to differing acoustic signals. It's nevertheless possible that an adult or adolescent who is learning a second language makes use of conscious processes to some extent.

3.8.9. A review of the Critical Period Hypothesis

The Critical Period Hypothesis (CPH) (Lenneberg, 1967; Penfield & Roberts, 1959; Scovel, 1988) contends that for a learner to acquire native pronunciation, an L2 must be learnt early, maybe as early as six years of life. Others question the explanations, claiming that adults have physical maturity and additional cognitive variables that may maximize their learning. Several authors have suggested a "sensitive" or "optimal" phase rather than a crucial one. Moreover, the length of the period varies significantly amongst individuals. According to the rigorous interpretation of this theory, learners lose their capacity to properly learn a language at the age of 12.

Based on a review of studies on speech perception, Wode (1994) issues a warning that there are several ways in which age may influence language learning and that no one theory can currently account for all the data.

Flege and colleagues have conducted a substantial amount of research on the impact of exposure duration on L2 perception and output. The production of the English vowel /e/ was the topic of research conducted by Flege et al. in 2003 with native Italian speakers who were learning English. Subjects were divided into groups based on their age of arrival (AOA) and their continuous use of L1 (Italian). The participants' performances were evaluated by native English-speaking adults, and the results showed that low-L1-use bilinguals tended to

generate English vowels more accurately than high-L1-use bilinguals and early bilinguals (i.e., earlier AOA) tended to do so as well. Bilinguals in Canada were also evaluated in a previous study by MacKay et al. (2001), which looked at how much continuing L1 usage and AOA varied among them. Compared to Flege et al. (2003), this study's findings were different.

The creation of English /b/ and the perception of short-lag /b d g / tokens were both studied by MacKay et al. in 2001. Instead of any possibility that early learners had an edge over late learners for creating new phonetic categories, the observed discrepancies between early and late bilinguals were ascribed to variations in the quantity and quality of English input. The impact of the length of L2 exposure is not at all evident, in fact. All participants in a research of Spanish-Catalan bilinguals had at least 12 years of Catalan exposure (Ramrez et al., 2017). The findings of this study showed that bilinguals had not mastered the perceptual distinction between Catalan /ʎ/ and /ʒ/ phonemes despite both high use and more than ten years of exposure. These findings, according to the authors, provide compelling evidence that bilinguals' acquisition of a sound system is heavily influenced by their first language and that these speakers lack access to a second system from which they may have switched. It could also be important to consider students' aptitude, or what Gardner refers to as a "laser profile," which is an intrinsic individual characteristic. A student with a great grasp of linguistic intelligence may pick up pronunciation more quickly than a less linguistically smart student.

Another important factor is motivation, which comes in at least three flavors: intrinsic, integrative, or instrumental (Norris, 2001). Students that are instrumentally motivated people put out effort to acquire a language to meet requirements for school or work, or maybe to progress in those situations. The learner who is interested in the culture of those who speak the target language fits the definition of integrative motivation. Last but not least,the learner who is intrinsically driven is similar to the learner who is motivated by integrativefactors, but this learner finds that the action of the learning exercise is stimulating per se.

This study was organized and supported by the aforementioned techniques and their resources, such as minimal pairs, phonetic drills, IPA charts, as well as perception, psycholinguistics, and age factor. In order to demonstrate that participants pronouced /e/ instead of /æ/, for example, the IPA chart was crucial in the structuring of this work. The age element had an essential influence in our phonetic study (Ribeiro Daquila, 2011), because one of the oldest participants was the one who achieved the maximum score in the pronunciation

tests, this suggests that motivation and determination may be important variables to enhance one's pronunciation.

IV. METHOD

This Chapter focuses on two main topics. Firstly, we wanted to investigate students and alumni in order to know how high schools in Dubai and Abu Dhabi develop their work as well as if they implement MI theory in the classroom. We gathered such information by creating and distributing two different questionnaires, one for high schoolers and the other for alumni. (See appendix A and B, respectively).

On the other hand, it was looked at whether the performances of Emirati musicians or music lovers versus regular participants (students and alumni) differ when trained in the area of English grammar and Phonetics. In order to show that learning in accordance with a student's area of strength is more effective than learning through a traditional method, students and alumni versus participants with musical proclivities will be trained in two separate groups. These proclivities were obtained from a questionnaire administered prior to the formation of the groups [see Appendix C]. In order to be selected to the experimental group (participants with proclivities toward music) participants needed to answer positively at least five out of the seven questions regarding music habits, or music instruments.

The information for this section was gathered from six distinct training sessions, each lasting ten minutes. A pre-test took place prior to the first session (see appendices D, E, and F); post-tests 1 and 2 were administered following sessions 3 and 6, respectively. The post-tests were identical to the pre-test (see appendix D, E and F).

4.1. Identification of Participants

Part 1 (students and alumni to assess high schools in Dubai and Abu Dhabi)

- 100 high school students were chosen at random to complete questionnaires designed specifically for this study. All of them belong to high schools in Dubai and Abu Dhabi.

- 100 alumni were chosen randomly to complete questionnaires designed specifically for this study. All of them aged between 38 and 50 from Dubai and Abu Dhabi.

- 30 extra participants whose ages ranged from 28 to 37, all of whom resided either in Dubai or Abu Dhabi and in conjunction with 70 other participants from the high-school and alumni

groups formed a new group, aged from 18 to 50, to answer a questionnaire regarding the usage of English words and verbs in Emirati Arabic.

Part 2- participants for the experiment on English prepositions and phonetics Training

20 participants - 10 male and 10 female - were randomly chosen to comprise the control group.

20 participants - 11 male and 9 female participants - who answered the questionnaire (Appendix C) that they have music proclivities, (i.e., they listen to music at least five times per week, they enjoy singing along with music, music is important in their lives) were chosen to be the exp. group. We would have preferred to train any musicians such as viola players, pianists, violinists in the exp. group; nonetheless, we were unable to do so. The age range for participants in both groups was 28 to 38.

4.2. Materials

This research, which evaluates high schools in Dubai and Abu Dhabi using Sierra Bravo's (1996) categorization system for empirical work, falls under what he refers to as "direct type empirical" on the one hand. As one of the goals of this research is to ascertain the situation of English learning in the high schools in Dubai and Abu Dhabi, it surveys the reality and utilizes a descriptive approach. The questionnaire was the instrument used to gather the data. Together with the interview and the attitude scale (quantitative measurement) conceive the three sorts of observation through survey (Bisquerra Alzina, 2004). A sample of the population's oral or written comments are the foundation of the survey, one of the most popular social research methodologies, in order to obtain data (de Vaus, 1996). The purpose of the questionnaire is to collect data on the variables under inquiry from the research population (high schoolers and alumni aged 38 to 50) in a systematic and organized way (see appendix A and B). The interviews were recorded onto a mobile phone (Samsung S10) whenever there was time and students were ready to participate, they were requested to speak freely about how English has influenced Emirati Arabic. The evolution of the educational system in the UAE was the subject of an interview that served as the second section of the questionnaire for the alumni group (see appendix B. part 2).

In the second part of our study, a short questionnaire was administered in order to select 40 participants to the exp. and control group (see Appendix C).

A standard pre-test was administered in both groups (see Appendix D, E and F) to evaluate the experiment; participants here aged from 28 to 38. The choice of the age of the participants was made to prove that although students are older than 13 years old, they can still improve their pronunciation and have a native-like pronunciation, unlike the Critical Period Hypothesis (see, 3.8.9.) as proven in our previous work (Daquila, 2014).

4.3. Procedure

In the first part of our study the questionnaires were distributed in 3 private schools in Dubai. Some parents / relatives of students also filled in the questionnaires (aged from 28 to 38). Teachers of Alramsa institute in Dubai played an essential role in answering the questionnaire and helping us find participants. Due to the Coronavirus pandemic, a total of 37 questionnaires were answered online.

In the next section we will firstly explain the pronunciation and consequently the preposition training.

4.3.1. Procedure part 2 – The trainings

Six months prior to the beginning of the training there was a pilot experiment with 14 participants in which 6 sounds were tested. These sounds were chosen after analyzing the phonetic system of both languages English and Arabic. As two of the six sounds (/i:/ and /b/) did not represent problems for the participants, they were excluded, and the remaining sounds were: **/æ/, /v/, /p/** and **/ r/.** The grammar test was also experimented, accepted, and incorporated into the study.

After being selected through a questionnaire (see Appendix C), all participants individually took the pre-test on pronunciation and grammar (see Appendix D, E and F). And then they were trained in six sessions on different days. Students received feedback after each session, as we are working with the principles of MI, which believe in the progressive evaluation, instead of exams at the end of a process to assess students' learning. There was a post-test at the end of the third training session and a second post-test at the end of the sixth training session.

There were twenty participants, 9 women and 11 men in the control group, and twenty participants the experimental group, 13 women and 7 men (from now on, exp. group).

Regarding pronunciation, there was an identical pre-test for both groups in which each sound was analyzed ten times in the speech (appendix E). 7 or 8 of words representing each sound were read out loud and at least twice these sounds were not written, but represented by a picture, so if the students saw a cat in the picture, they would make a sentence containing the word cat (appendix E. part 2). This was made so that partakers were not influenced by the written word and were able to pronounce the words more spontaneously.

The pre-test was followed by six training sessions in which each sound was represented and practiced in a different color as proposed by the color chart (appendix H). The sounds were analyzed by a postdoc linguist and expert in pronunciation and by an American English teacher, who has been teaching English for 7 years since she moved to Spain. She speaks German, Catalan, and Spanish fluently. We only disagreed on the /r/ sound when considering the sound acceptable or not in English, but she finally realized that tapping the **/r/** just once is the typical Scottish / Northern England pronunciation for the **/r/**, like in So**r**ry, which is pronounced in Scotland and in Northern England like the Spanish and Portuguese word *ba**r**ato* (meaning *cheap*), and like in Catalan and Italian *pe**r**ò* (meaning *but*). However, most of the time Emiratis made an apical (tongue-tip) alveolar trill sound, that is, instead of just flapping the **/r/** once as a single letter, participants doubled it, as in Spanish and Italian word *bi**rr**a*. Although participants were encouraged to make the retroflex approximant[52] sound, the most recurrent sound in English (Wells, 1992; Stanley, 2019) they were told that it would be ok if they flapped it, as it happens in Scottish, Some parts in South Africa and Northern England pronunciation (Wells, 1992).

Regarding the preposition training, a pre-test was administered just before the first training session (see Appendix D and E). Post-test 1 was applied just after session 3 and post-test 2 after the end of session 6. Both post-tests were the same tests used in the pre-test. Before session 2 all students had access to their pre-test, so they could analyze their mistakes. In the case of the control group, the lyrics of the song were read in each session, participants repeated the rules (see Appendix I - part 1), and the instructor stressed the prepositions, as they are written in different colors and blocks. For instance, the preposition *on* is written in blue and preposition *at* in red. After reading the rules, the control group read the lyrics of the song made specifically for this study (see Appendix I – part 2) and the experimental group sang the same lyrics by using Madonna's karaoke of Like a Virgin[53].

4.3.2. The difference in the training

[52] Alveolar or approximant retroflex (as in the majority of English dialects, with minor variations): The tongue-tip may be curled back toward the roof of the mouth when the front portion of the tongue approaches the upper gum ("retroflexion"). There is minimal to no audible friction.

[53] The Karaoke song of Like a Virgin with the lyrics made specifically by this study can be accessed at: https://www.youtube.com/watch?v=0_yVbr6kLhw

The exp. group received initially the same training as the control group, that is, both groups used the training phonetics part I (see annex H) and both groups went through it twice. While the control group just read the lyrics of a song in training phonetics part II (see annex H) the exp. group sang it along with the song *bad boy* of Gloria Stephan[54], in the case of the pronunciation training or sang the song made specifically for this study to practice the prepositions (see Appendix I)

[54] Glória Stefan - Bad Boy instrumental Retrieved from YouTube: https://www.youtube.com/watch?v=zwISasq-UnI

V. RESULTS AND DISCUSSION

5.1. Part I – High schoolers' and alumni's questionnaires

A twenty-eight question survey was given to 100 graduates (aged 38 to 50), hereafter referred to as the alumni group, from Dubai and Abu Dhabi with the aim of learning how Multiple Intelligences assessments, assignments, English, and Arabic lessons were handled in Emirati schools. Public schools were attended by 92 alumni. 47 participants were men and 53 were women.

In order to learn more about how Multiple Intelligences, examinations, assignments, English, and Arabic subjects are handled in these institutions, 100 students (aged 18 to 20) from high schools in Dubai and Abu Dhabi completed a questionnaire with 22 questions. Private schools, which may be British, American, or Koranic, were attended by 78 individuals. Twenty-two attended public schools. There were 57 male and 43 female students.

5.1.1. Comparative appraisal of high school system by alumni and high school-students

The figures below present significant findings of the questionnaire study for high-schoolers and alumni (see Appendix A and B).

a. Book-centered and language of instruction (questions 1 to 3)

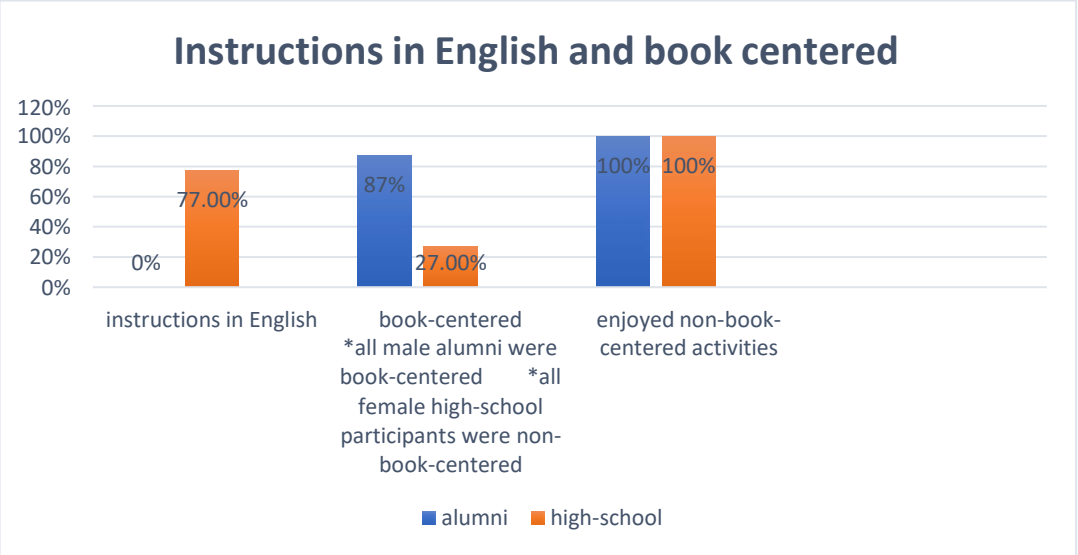


Figure 5.1.

There were no subjects offered in English at schools 20 years ago, as shown by figure 5.1. It's important to remember that the concept of CLIL is new and that it evolved from content-based training in 1989. As a result, Arabic was the exclusive language of teaching in Emirati high schools. Just 23% of high school students in Dubai and Abu Dhabi still take all of their content classes in Arabic, indicating a shift in the language of teaching. With the exception of Arabic Language and Culture, which were taught exclusively in Arabic and ranged from Five to six hours weekly, all of the academic topics taught to Emirati children at British and American schools are in English.

With reference to the second question, all male participants from the alumni group responded that the classes were completely book based. Yet, regarding the female students, we discovered that 13 of them (or 24,5% of the female alumnae) had songs in their classes, and one of them recalled acting in a play that the students had written. On the other hand , we observed an increase in creative activity in the high school group: 30 males (52,6% of all the male high schoolers) participated in non-book activities. These activities included playing games for pleasure and learning material, singing in class to learn English, watching movies on the topics they were studying, and playing music.

With regard to the third question, "Would you appreciate it if your instructor tried to help you with choreography, singing, theatre, games, creative writing, and hands-on activities?" All of the participants agreed that learning through dance, films, and songs—the only three activities mentioned—was more enjoyable since it allowed them to engage with their peers and undertake things that weren't included in textbooks.

b. Participants' hobbies (questions 4)

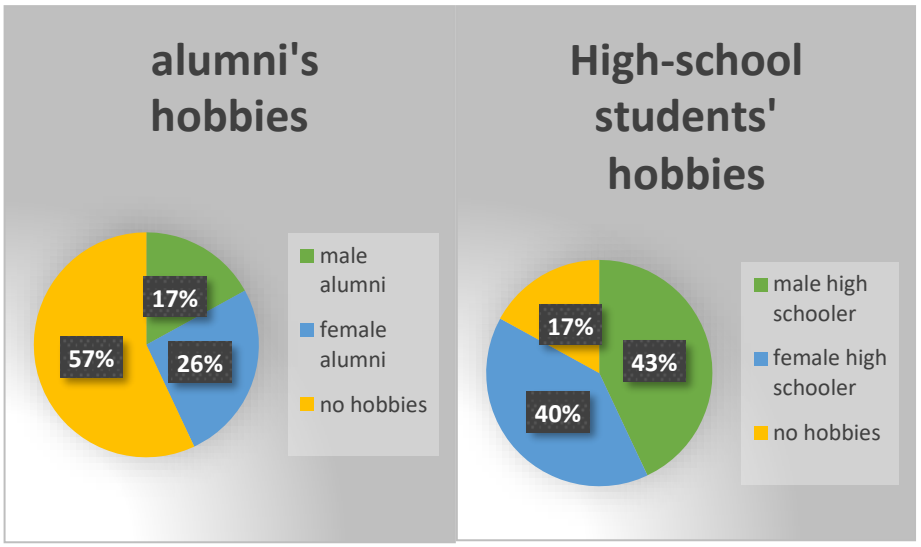


Figure 5.2.

Figure 5.2. depicts question four, which enquired if students had any hobbies, did any sports, played any instruments, or were interested in dance; we discovered that the females in the alumni group are more active than the males: only 17 men (36% of the male alumni) play the guitar, go to the gym, play soccer, and two of them play the piano (when asked how proficient they were, the two respondents replied that they could play simple songs such as "happy birthday to you"). In contrast, 26 women (49% of the group) attend belly dance lessons or go to the gym. High school students are more involved in sports and hobbies, and these pursuits are also more diverse than those of the alumni group. Now, 40 of the femalesin our group play the guitar, exercise, take belly dancing lessons, go snowboarding (in the Mallof the Emirates), and take piano classes. Whereas 43 boys enjoy horse-riding, playing football,playing the guitar and even automobile racing in the desert.

C. Employment of students' hobby to stimulate the class and students' views toward this practice (questions 5 and 6)

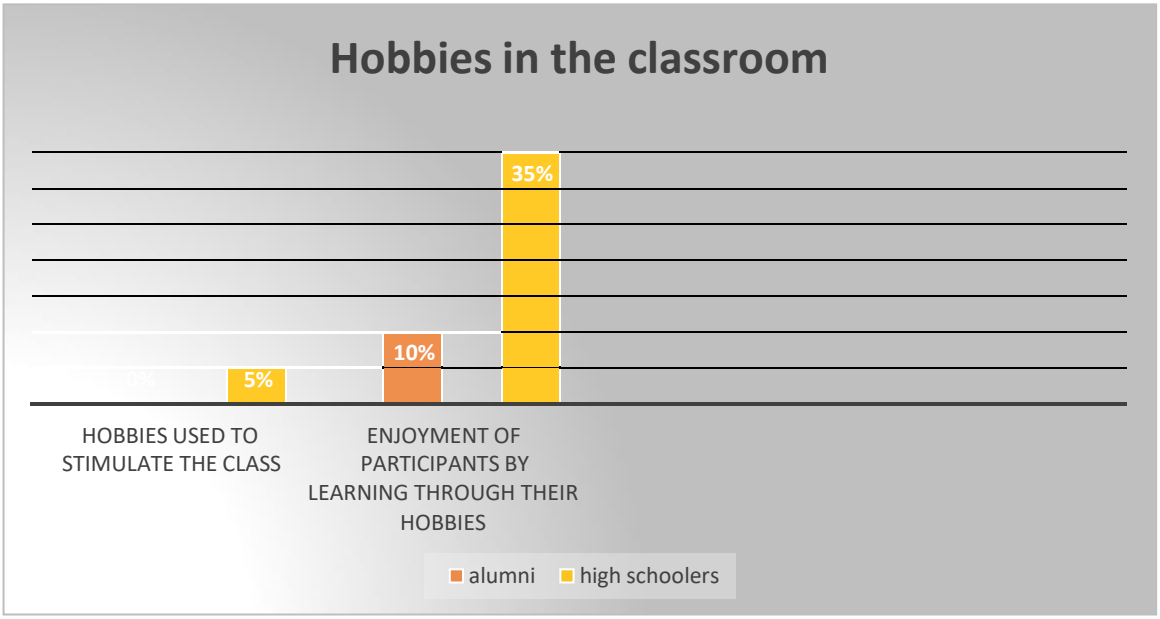


Figure 5.3.

As shown by the graph in Figure 5.3, all alumni never had their hobbies used in the classroom as a stimulation for the various sorts of intelligences suggested by MI theory, whereas among the high schoolers, only two male students and three female students claimed their hobbies were used in the lessons, references to the songs the teachers used in class. 90% of the alumni said they weren't keen on trying to learn through their pastimes, and some even said that learning through hobbies would be distracting and was not a good concept because school is a premise to study, not to have fun. Regarding high school students, they were more open to MI-like activities, and 35% of them indicated they would like the opportunity to learn content through their hobbies.

All high school students at private schools were evaluated every day, and projects and presentations were included in the evaluation. Several respondents also mentioned that conduct was a significant factor in their final score. Yet only attendance and conduct in class among high schoolers attending public schools affected their exam grade. One extremely intriguing feature is that all respondents from both groups were happy with the grading procedure, regardless of their gender or age.

D. Classes Exclusively in the Classroom or in Museums, outdoors?

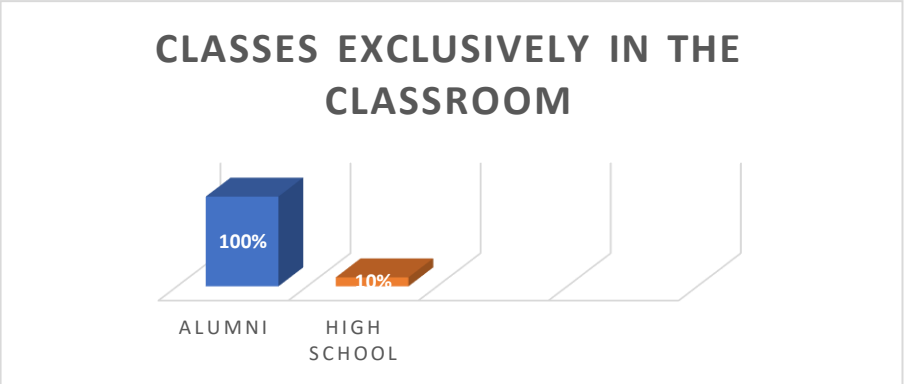


Figure 5.4.

All alumni claimed to have had all of their classes in the classroom, as seen in Figure 5.4, and 98% of them said they would have preferred to take lessons somewhere else. Regarding high schoolers, more than 90% claimed to have had lessons outside of the traditional classroom setting, such as at theaters, chemical labs, and museums. Students love these events because they get to know the teachers and other classmates better and/or because they do not get bored.

E. The Effect of Homework on students' Final Grade

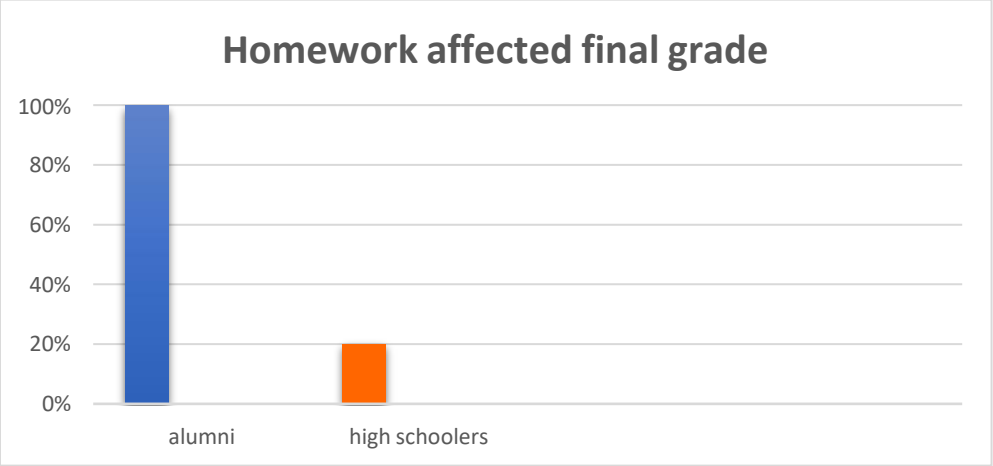


Figure 5.5.

In the last 20 years, homework has changed in the UAE as well. All alumni who responded to the survey claimed that their assignments were always boring and was completed individually, in contrast to high schoolers who claimed that the assignments for home were occasionally boring. Some pieces, however, were characterized as enticing, such

as when they had to collaborate on projects, and it was not always completed individually. The sources utilized to do assignments have also evolved; high schoolers now include the internet and interviews in addition to books. The teachers reportedly examined the homework of both groups. As seen in Figure 5.5, all alumni claimed that skipping assignments had consequences on the marks. On the other hand, more than 80% of high school students claimed that it had no impact on their scores.

F. How good is Arabic proficiency among expats?

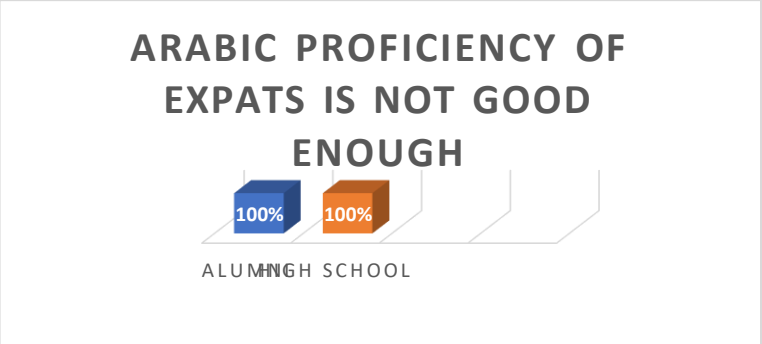


Figure 5.6.

All high school students report that their level of Arabic proficiency is insufficient for them to carry on a talk in Arabic, so they always converse with expat students in English. In contrast, more than 85% of the alumni did not have any expat students in their groups, meaning that all conversation was in Arabic. Nonetheless, the remaining 25% of alumni who had expat classmates concurred that they lacked the capacity to have a discussion in Arabic. The necessity for increased Arabic instruction at school for expats was acknowledged by both alumni and high school students.

All alumni report having Arabic English teachers, the majority of whom were from Egypt, but there were also some from Palestine and Jordan; in contrast, high schoolers had a 56% non-native English teacher population from the same nations, as well as teachers from the Emirates and 44% native English speakers. Apart from English classes, some high school students also had some or all of their other subjects taught in English, with the exception of Arabic.

G. Phonetics in the classroom

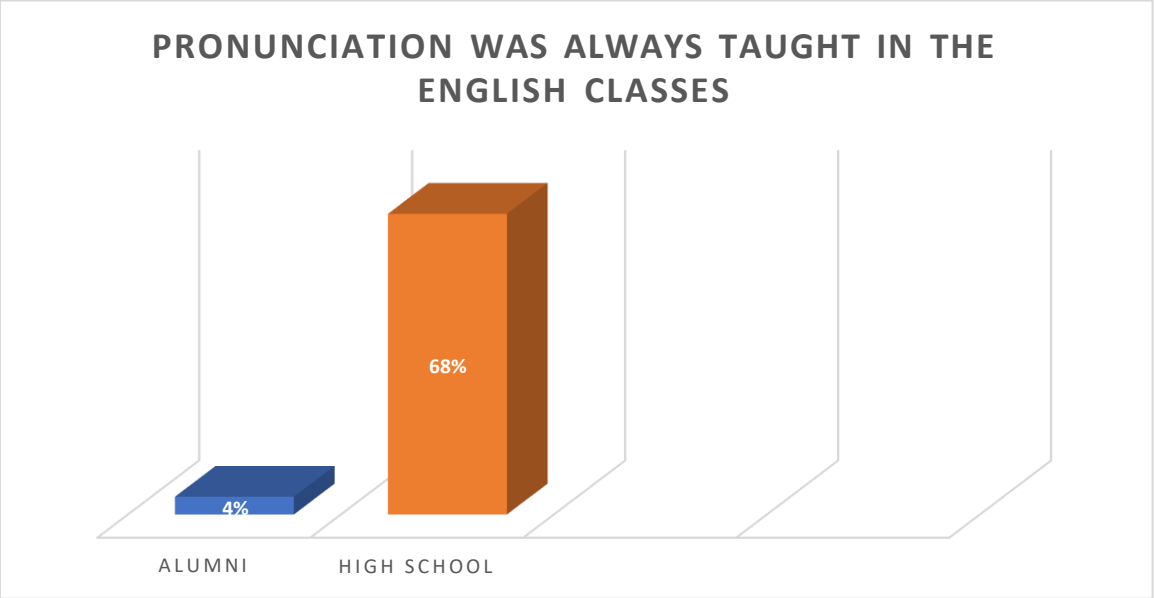


Figure 5.7.

With regard pronunciation in the classroom (Figure 5.7), 4% of the alumnae, said that pronunciation was always corrected; nonetheless, they admit that their English teacher had a "strong Arabic accent," and they now even know that certain terms were mispronounced by the instructors. The remaining alumni claimed that mastering grammar and vocabulary, rather than pronunciation, was the major focus. Remember that all of theseeducators were Arabs.

High school students received corrections in 68% of cases, occasionally in 17%, and never in 15% of cases. It's also noteworthy that professors corrected students' pronunciation not just verbally but also physically by pointing to the stressed syllable or by putting the word's transliteration on the whiteboard. Four pupils from the same class claimed that their teacher also gave them dictations that contained terms that students found challenging to recognize.

H. **Quantity of MSA at High School**

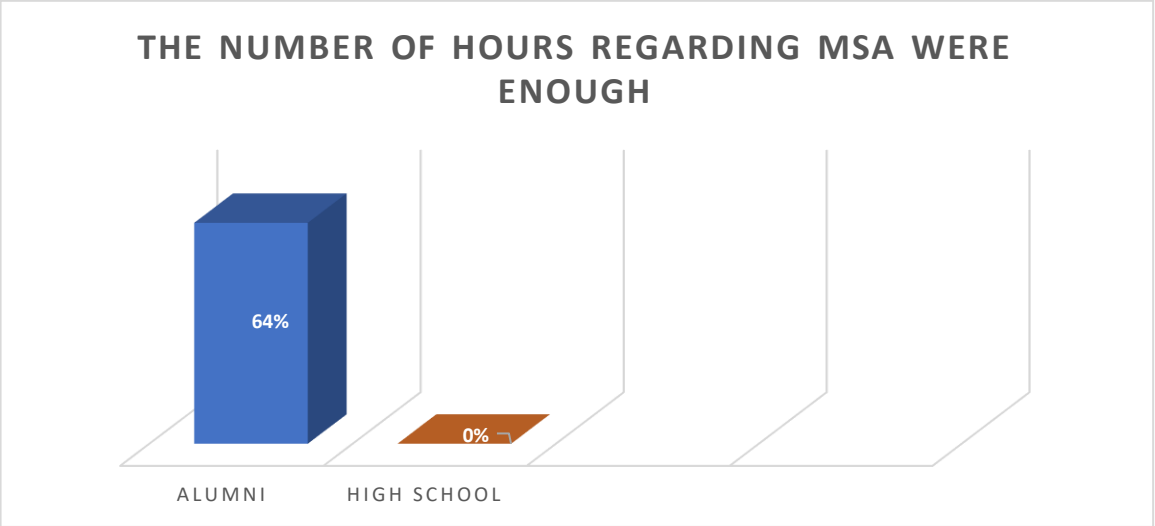


Figure 5.8.

As shown in figure 5.8, all high school students concur that the current amount of instructional time of MSA is insufficient to prepare them for confident communication. In American and British schools, MSA education lasts around 2.5 hours (often in daily sessions of 30 minutes) or 3.0 hours and 20 minutes in private koranic institutions (40 minutes every day). Yet, because all topics were taught in Arabic and graduates had only received about five hours of MSA teaching, 64% of alumni believed they could interact in the language. Also, although Emirati students currently begin between the ages of four and six, Alumni used to begin English instruction at the age of eight. In our survey, 22% of secondary school students began at four years old. However, the majority of them (57%) began when they were six, and 21% when they were seven.

The subsequent questions were only intended for alumni in an effort to get insight into how education was in the past compared to the present and which elements have improved or declined according to their perceptions and experience.

One participant, who was 50 years old, reported that primary education was already required for her (she finished primary school almost 40 years ago). Most boys and girls attended single-sex public schools, and a minority attended mixed private schools (albeit classrooms were divided as per sex), she explained that private schools was not available to her parents. They had just one instructor, who was typically from Jordan, Egypt or Palestine,

and school began at six in the morning and ended at twelve. According to my father, he read the Quran in class most of the time, he was taught some words in English and some mathematics. He learnt in small groups and students sometimes did not know others' full names.

Participants who were 38 years old still attended a single-sex school and got five hours of English instruction each week. These participants also stated that middle-class Emiratis only attended elementary and secondary education. University was overseas and only for thekids of the ruling family or highly wealthy Emiratis. Several of the parents in this generation were illiterate. Females were likewise urged to attend school. They either attended private schools with single-sex classes or segregated public institutions.

Regarding the issues the majority of alumni back then encountered, alumni indicate that transportation was not an issue because there were enough schools in Dubai and Abu Dhabi and buses to bring pupils to school were available. Each classroom had around 30 students. There were only two semesters, and at the conclusion of the second semester, students had their whole year evaluated. Passing was more challenging. These days, students take three terms, and after the end of a term, they no longer repeat those topics. The fact that there was just one break all day long was one of the objections. Currently, students have two or three. During the brief break, alumni were limited to sandwiches and juice, which they had to purchase. Alumni also emphasized how students at present have more subjects and content. Nowadays, secondary students may pick the field they wish to pursue, alumni had only two alternatives. Alumni also attended lessons six days a week, had three hoursof Fusha, and all of their subjects were taught in Arabic.

Bullying did happen back then, according to some male alumni, but school leadership took strong action after students complained. The older students, who tended to be the bullies, were the ones that failed the school year: "They attempted to hit you, threaten you if you did not get them food, but the school would issue warnings, and sometimes parents would even beat their kids when they discovered they were bullying. Bullies are now warned by their school and given a grade reduction if they are discovered to be bullying."

Alumni claim that there was greater respect when it came to disciplinary methods: "Just a glance and we would remain silent, discipline affected our marks."

Alumni perspectives and experiences indicate that the UAE's educational system has undergone a significant transformation, with more subjects being taught in English, it is becoming tougher and better, and there are a greater variety of subjects available. Several alumni claimed that because their studies in the public school did not adequately prepare them to pursue university in English, they had to be prepared for one year of English prior to joining university.

5.1.2. Words in English used in Emirati Arabic

A total of 100 participants from 18 to 50 years old. 52 were women and 48 males. 70 participants were the same ones from the high-school and alumni groups. Their occupations are teachers, students, policemen, bank assistants, one book publisher, one restaurant owner and one governmental worker. 50 participants aged from 18 to 20, all of whom went to private schools; the 50 remaining aged from 28 to 50 and went to public schools. There were 30 new participants aged between 28 and 37.

All participants regardless of sex, age or type of school always use the following English words when pronouncing the Emirati Arabic: USB (referring to a pen drive), online, microphone (two male over thirty-years-old pronounced /mikrofon/, the rest pronounce it as /maikrofon/ [55]), mouse, keyboard, milk shake, Wi-Fi (sometimes Internet or just net meaning Wi-Fi). They also do not know the equivalent for Wi-Fi and milk shake in Arabic. 95% of the participants use the word *coat* to refer to the doctor's white coat. There were two exceptions: a man who is 30 and works for the government and said that he uses solely Arabic, both Standard and Emirati at work. This participant lives in Sharjah (where there are fewer English-speaking immigrants compared to the two metropolis) and works in Dubai. The other participant, a 38-year-old man who lives in Abu Dhabi; however, he grew up in Al-Ain, where

[55] 23 questionnaires were sent through email or the participants took extra questionnaires home to be filled in by friends and/ or family members, we do not know how these 23 participants pronounce these words.

more than 35% of the population consists of Emiratis [56] . 3% of the participants said that they did not know how to call it.

With regard to the participants from 18 to 20 years old, a total of 50 young Emiratis, they also always use, apart from the words listed in the paragraph above, the English verbs: to cancel, to park, to download, and to check, as well as the words: password, gym, charger, already and glass when talking in Emirati Arabic. Only one adolescent from Abu Dhabi claimed to use the word already only sometimes. His socioeconomic class is upper-class. The following phrases were produced by participants when asked to create a sentence using already: Already sharabt shay. (Literally: already I drank tea); Abdullah already kilt. Literally, Abdullah already ate. 94% always use the word business and the remaining 6% (all boys) employ indistinctly "business" and the Arabic word *tijara*. 94% employ the word coat, to referto the white coat of the doctors and 3 participants confessed not knowing how to call it. 92%always /almost always say the word class, and 8% alternate it with the Arabic word *dars*. 82% of the young participants always use the word free and 18% occasionally do, alternating free with the Gulf counterpart word *bi balash* بلاش (free), none of them said

to employ the MSA term "majana".

The word "lift" is popular among this group: 82% employ it all the time and 18% occasionally do it, alternating it with the MSA term *miS3ad*. 62% always or almost always employ the word "yes", and the rest of respondents employ both yes and *heeh*, the Emirati word for "yes". Although 100% of the youngest group always or sometimes employ the word "same", alternate it with the Arabic word *nafs*. 80% said to almost always employ the word good luck , 10% (all of them girls) reported always using it, while 10% (mostly boys) rarely use it and prefer the Arabic form *bi talfiq*. This group came up with the following extra English words when they speak Arabic, the number in parenthesis indicates the number of participants who mentioned the word: phone فون (15), telephone (14), bye باي (12), nice ناايس (11), so (10), coffee كوفي (10) (for both the drink and the café), sorry سوري (9), enjoy (9), GPS جي بي اس (4), location

[56] Retrieved from the official page of the government of Abu Dhabi: https://www.scad.gov.abudhabi/Release%20Documents/SYB-2016%20EN%20Population%20and%20Demography%20PD.pdf

لوكيشن (5), hi هاي (4 girls and 1 boy), playstation (4 boys); thanks ثانكس (4 girls and 1 boy), businessman (3),mobile (3 girls), tour تور (2 girls), thank you (2 girls), cheesecake (2), chocolate[57] (2) laptop الابتوب (2), light /leit/ (2), cartoon كارتون (1 boy) my mobile (*moubaili*) (1 girl); one female participant suggested the following make-up terms: glitter, make-up, base, highlighter, and lipstick.

With regard to respondents aged 28 — 50 years old, consisting half of the participants, all of them use the word “glass” but only 70% always use it, while 26% sometimes employ the English word and 2 participants never use it. The word “good luck” is rarely used by most respondents (80%), while 12% always use it (all of them younger than 30 years old) and 8% never use it (all of them over 38). The word “charger” is always used by 96% of the participants only two male participants over 40 years old reported using it sometimes. The word “already” is always used among the participants younger than 38 years old and always used by 4 respondents over 38 totalizing 60% of this group. 10% sometimes use it while 30% (15 respondents over 38) rarely or never use it. Concerning the term “yes”, it has much less prestige in this group only 2 female respondents said to always use it. 70% confessed to use both yes and *hee* and 26% reported never using the English word. Another unpopular word among this group is the word “same”, only three girls (6%) reported always using it, 94% sometimes use it. Moreover, fewer people in this age use the verbs cancel and check: 2/5 (all of those under 38) always use them, whereas 58% sometimes. The respondent who works for the government and lives in Sharjah was the only one to claim that he never uses the verb cancel when speaking Arabic. As compared to the younger participants, the verb download becomes less prevalent; among those over 36, only 30% always use it, 60% occasionally say in English, and 10% (5 males) always say it in Arabic (nazala). This age group also uses the word "business" a lot. Just 4% (2 guys over 30) never use it, whereas 78% regularly use it, 18% only occasionally use it. Among this demographic, the word "class" is still often used (68% admittedly usually using it, 24% occasionally using it, and 8% (mainly males) never using it). Five male respondents admitted to never using the term "free," compared to the 80% who do so consistently. 92% of people in this age range always use the word "password" in a

[57] One of the participants was speaking only in Arabic and said: dayman agul chocolate, A7ib chocolate (I always say chocolate, I love chocolate) it is amazing how he pronounced the word chocolate with a perfect accent in English.

sentence. Just one person claimed to occasionally use it, and three males (all over 30) claimed never to. While being popular among this age group, the word "gym" has lost its unanimity; 80% of participants use it exclusively, 12% do it occasionally, and 4 males exclusively use the Arabic word "*Sala*" or "*Sala riaDia*". Lastly, 82% of participants always use the term "lift," 8% occasionally do so while switching it up with the Arabic word "mis3ad" or the French term "ascenseur," while 4 men and 1 women said they always do so. The following English words were also mentioned as being used when speaking Arabic: phone (seven), enjoy (three), cycle (for bicycle), light (two), and lab (two). The following words, however, were only mentioned once: so, scan, smart phone, application, hard disc, wire, dress (the army uniform), brake, bonnet, project, bus, spray, cafeteria, canteen, condition (for air conditioning; the respondent was 50 years old), projector and freezer (pronounced "freizer"). One female respondent claimed to have used the expressions "you know, I think, sometimes," and "novel" frequently.

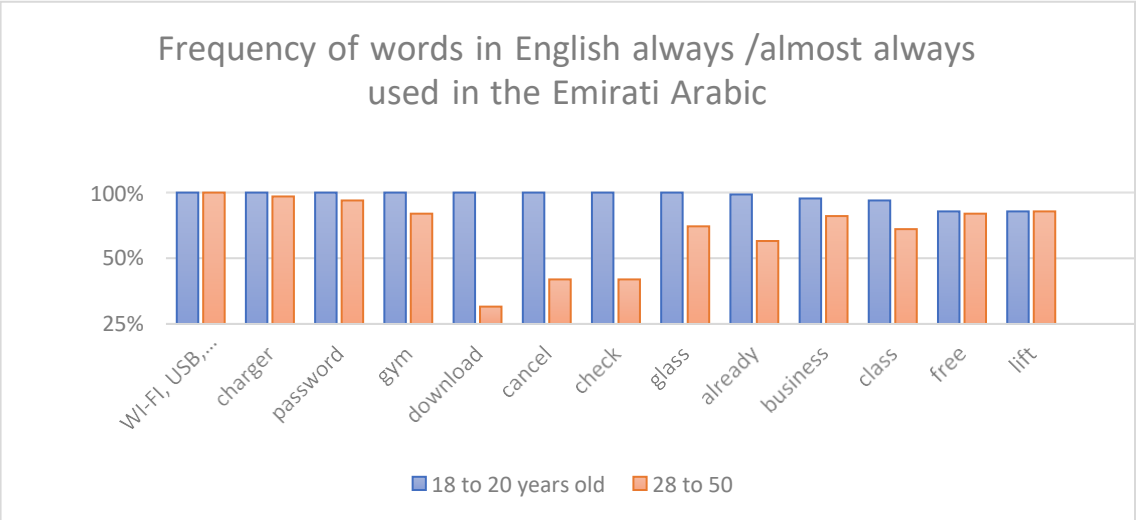


Figure 5.9.

The graph above in Figure 5.9. shows us that all participants from 18 to 20 years old always use words in English more often than the group from 28 to 50 years old, except for the word *lift which is used equally by both groups*. However, lift is alternated with the MSA word *mis3ad* in the former group and in the latter, it is sometimes alternated with the French word *ascenseur* and 10% participants in the group 28 to 50 use exclusively the word *misa3d*.

5.2. Part II – The training

20 participants were trained in the areas of pronunciation and grammar. 12 of them were trained individually due to the Covid-19 pandemic; 2 of them in pairs and there were two groups of three participants. Participants were randomly chosen to be the control group and other 20 participants were chosen after answering a questionnaire (appendix C) to be the experimental group, these participants either enjoyed music or played an instrument.

5.2.1. Pronunciation training

Twenty individuals comprised the control group (from now on control), and other twenty participants with a preference for music were included in the experimental group (from now on, exp. group)

5.2.2. First registration: Production pre-test

Pre-test 1 was completed by participants from both groups, and it involved analyzing the sounds **/æ/, /v/, /p/** and **/r/,** ten times in speech. The instances of each word being spoken correctly are shown below. For example, if just one participant pronounced a word properly, it would be marked with a number 1; if everyone mispronounced it, it would be marked with a number 0. There is a 4 if four individuals correctly pronounce that word. The proportion of right responses was calculated using the rule of three. In this instance, 200 represents the extreme of the percentage (20 students multiplied by 10 words equals the total number of valid responses). For group 1, the first studied phoneme, **/æ/**, was computed as follows: Eight respondents had only one correct answer out of eight. Because x% = 8 correct answers and 100% = 200 accurate answers, we can calculate x by applying the rule of three: x = 8 x 100%/200. We may infer that 8 accurate responses equal 4%.

Table 5.1.

/æ/	cat	bat	sat	dad	pad	Zac	ram	rat	vamp	pat	
Control	3	3	1	1	0	0	0	0	0	0	X=800/200=4%
Exp.	4	4	0	1	0	0	0	0	0	0	X=900/200=4.5%

/v/	volcano	volleyball	violin	vamp	vet	rave	very	veggie	review	rev	
Control	10	9	9	9	9	0	9	8	7	0	x=7000/200 = 35%
Exp.	9	8	9	10	8	0	10	8	7	0	x= 6900/ 200 = 34,5%

/p/	panda	potato	pizza	pave	pad	deep	peep	peep	pat	popcorn	
Control	6	5	5	4	5	6	5	6	5	5	X=5200/200=26%
Exp.	4	5	4	4	4	4	4	5	5	5	X=4400/200=22%

/r/	radio	rabbit	ram	rev	rat	river	rave	very	rude	review	
Control	1	0	0	0	1	2	0	2	2	1	x=900/200=4,5%
Exp.	2	1	0	0	0	1	0	1	2	3	X=1000/200=5%

So that we can better understand these values, we will see them in graphs:

Control group production pre-test – pronunciation accuracy

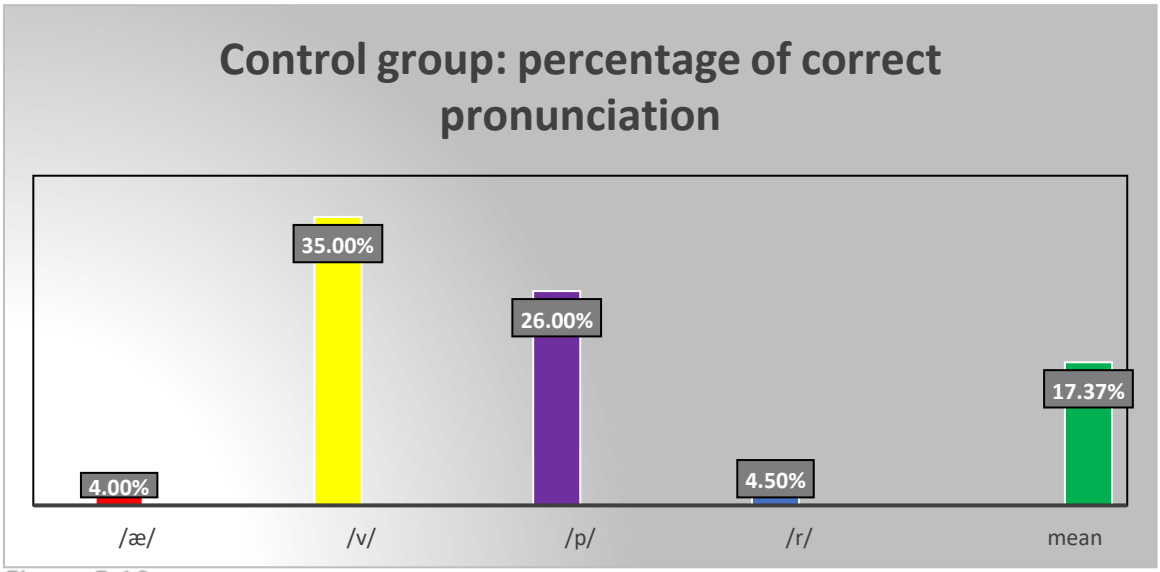


Figure 5.10.

As evidenced by the graph in Figure 5.10, we can see that just 4% of respondents accurately pronounced the sound **/æ/**, and only 4.5% correctly pronounced the phoneme **/r/**. The total of the four examined sounds, divided by 4, is the mean of the accurate pronunciation in the graph. Hence, the control group mean is 4% + 35% + 26% + 4.5% / 4.

Control mean = 69.5 / 4

Control mean = 17.37%

The control group participants appeared to have difficulty coping with these sounds, as seen by the mean 17.37% of accurate response in this pre-test. We'll strive to raise these numbers throughout the course of the next six sessions.

Experimental group production pre-test – percentage of correct pronunciation

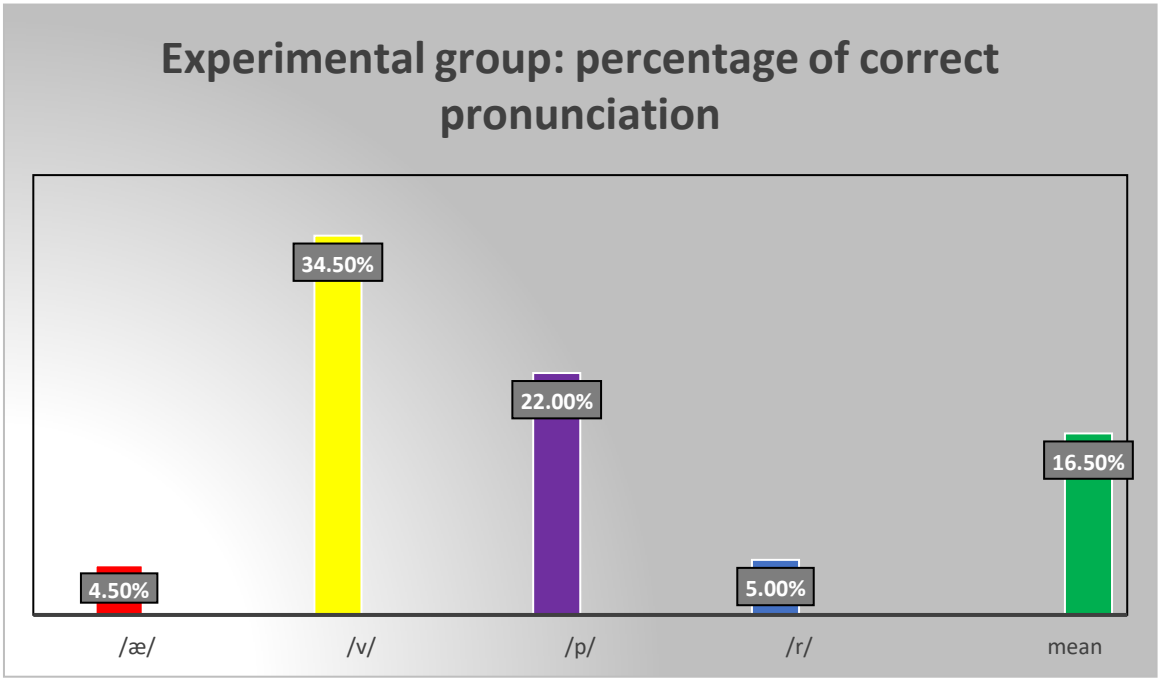


Figure 5.11.

As we can observe in Figure 5.11., the mean of accurate pronunciation is calculated by dividing the total of the percentages of the four studied sounds that are correctly spoken by four. This means that the experimental group mean is 4.5% + 34.5% + 22% + 5% / 4.

The Exp. group mean = 66 / 4 . Exp. group mean = 16.5%

As we can see, the difference between the control and exp. groups' means for perfect pronunciation is less than 1%.

5.2.3. Second registration: Production post-test 1

The control and exp. groups had six training sessions which lasted 10 minutes each. An immediate post-test1 was conducted after the third training session; students were again asked to repeat the same procedures required in the pre-test (see Appendix D, E and F). We could analyze an enhancement in both groups:

Table 5.2.

/æ/	cat	bat	sat	dad	pad	Zac	ram	rat	vamp	pat	
Control	8	6	7	7	5	4	3	4	5	6	X=5500/200=27,5%
Exp.	12	8	10	12	7	9	8	9	10	9	X=9400/200=47%

/v/	volcano	volleyball	violin	vamp	vet	rave	very	veggie	review	rev	
Control	12	10	10	10	10	4	10	10	8	4	x=8800/200 = 44%
Exp.	15	16	14	15	16	5	17	12	12	5	x= 12700/ 200 = 63,5%

/p/	panda	potato	pizza	pave	pad	deep	peep	peep	pat	popcorn	
Control	6	6	5	5	5	6	6	6	6	5	X=5600/200=28%
Exp.	10	9	12	10	10	11	9	11	12	12	X=10600/200=53%

/r/	radio	rabbit	ram	rev	rat	river	rave	very	rude	review	
Control	2	3	4	3	4	5	4	6	5	6	x=4200/200=21%
Exp.	7	6	5	4	6	7	6	6	7	7	X=6100/200=30,5%

Control group production post-test 1 – Percentage of correct pronunciation

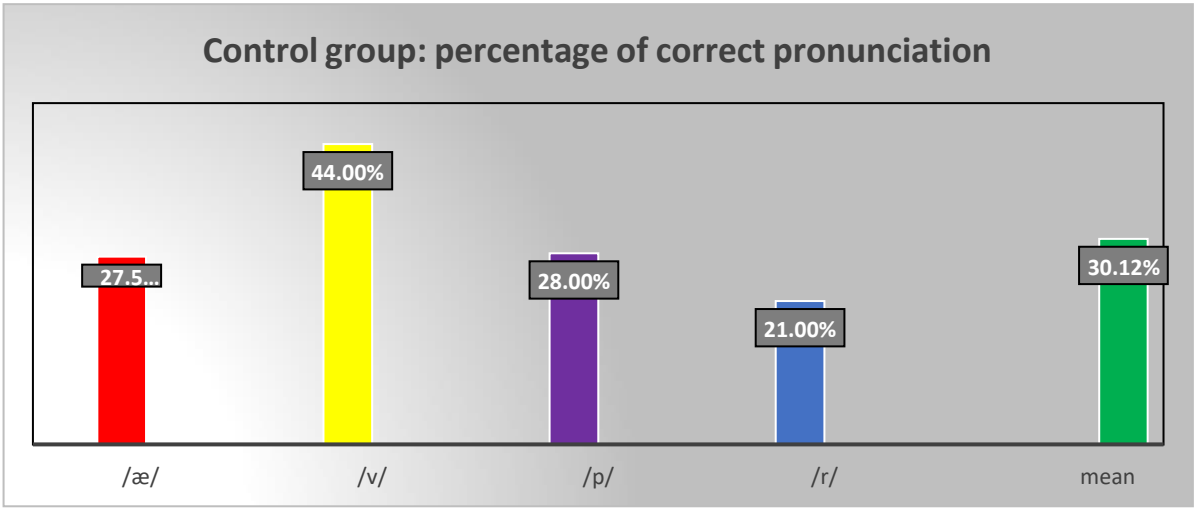


Figure 5.12.

As we can notice in the graph in Figure 5.12., the control enhanced the production of the four phonemes. The weakest performance had occurred with the phonemes **/æ/** and **/r/.** 4% of students accurately pronounced the phoneme **/æ/**. In the post-test 1 they had achieved 27,5% of accurate pronunciation. With regard to the phoneme **/r/**, it enhanced from 4.5% in the pre-test to 21%. There was an increase in the mean from 17.37 % of accurate responses to 30.12 %. The phoneme with the highest accuracy was the **/v/**, achieving 44% of accurate performance.

Post-test 1: Percentage of accurate pronunciation for the exp. group

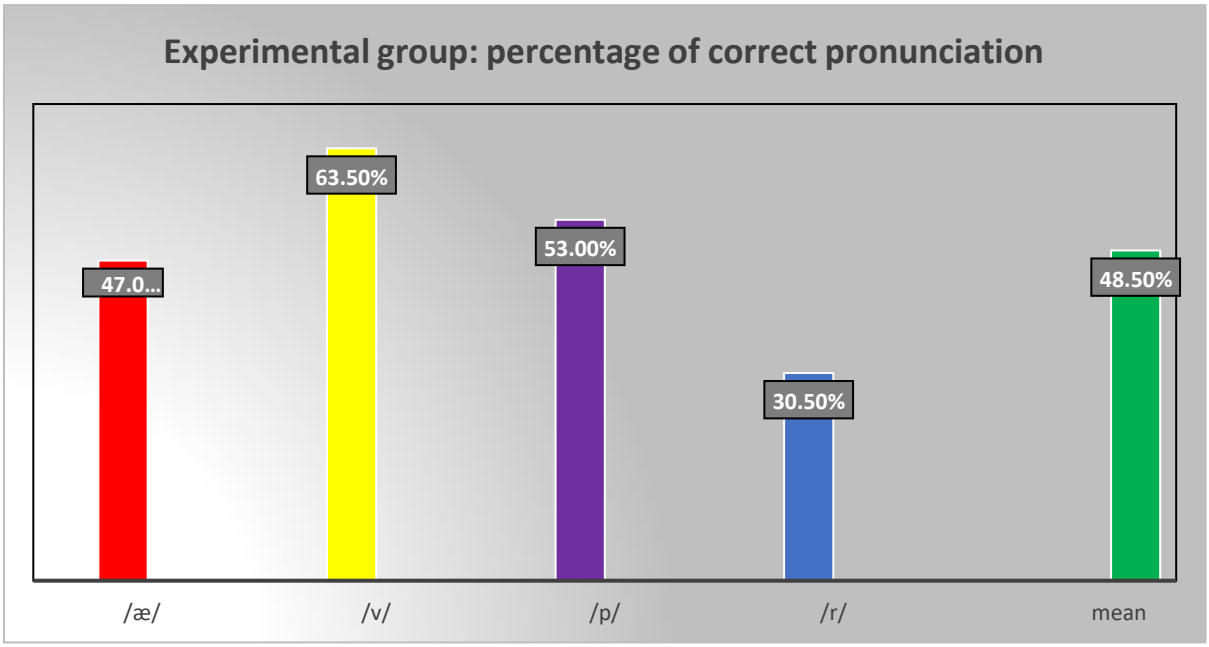


Figure 5.13.

As evidenced by the graph in Figure 5.13., the mean of correct pronunciation is 48.50%, over 18% better than the mean of the control. The phoneme with the highest performance was again the phoneme /v/, which achieved 63.5%. We explain this excellent achievement of the /v/ because English is de facto the most widely spoken language in the Emirates. Even though the Arabic alphabet lacks the /v/ phoneme and letter, respondents in the pre-test had already obtained a reasonable performance.

5.2.4. Third registration: Production post-test II

Post-test II was administered to respondents following the sixth and final training session.

Table 5.3.

/æ/	cat	bat	sat	dad	pad	Zac	ram	rat	vamp	pat	
Control	11	9	7	10	8	7	5	9	10	10	X=8600/200=43%
Exp.	19	20	20	19	18	17	18	17	18	19	X=18500/200=92.5%

/v/	volcano	volleyball	violin	vamp	vet	rave	very	veggie	review	rev	
Control	13	10	11	11	11	5	12	11	10	5	x=9900/200 = 49.5%
Exp.	19	20	20	19	20	17	20	20	18	17	x= 19000/ 200 = 95%

/p/	panda	potato	pizza	pave	pad	deep	peep	peep	pat	popcorn	
Control	12	12	9	11	12	14	11	15	12	12	X=12000/200=60%
Exp.	15	15	16	15	16	16	16	17	16	15	X=15700/200=78.5%

/r/	radio	rabbit	ram	rev	rat	river	rave	very	rude	review	
Control	10	11	9	10	9	9	10	15	12	10	x=10500/200=52.5%
Exp.	19	19	16	16	16	17	17	19	14	16	X=16900/200=84.5%

Post-test II – percentage of accurate pronunciation for the control group

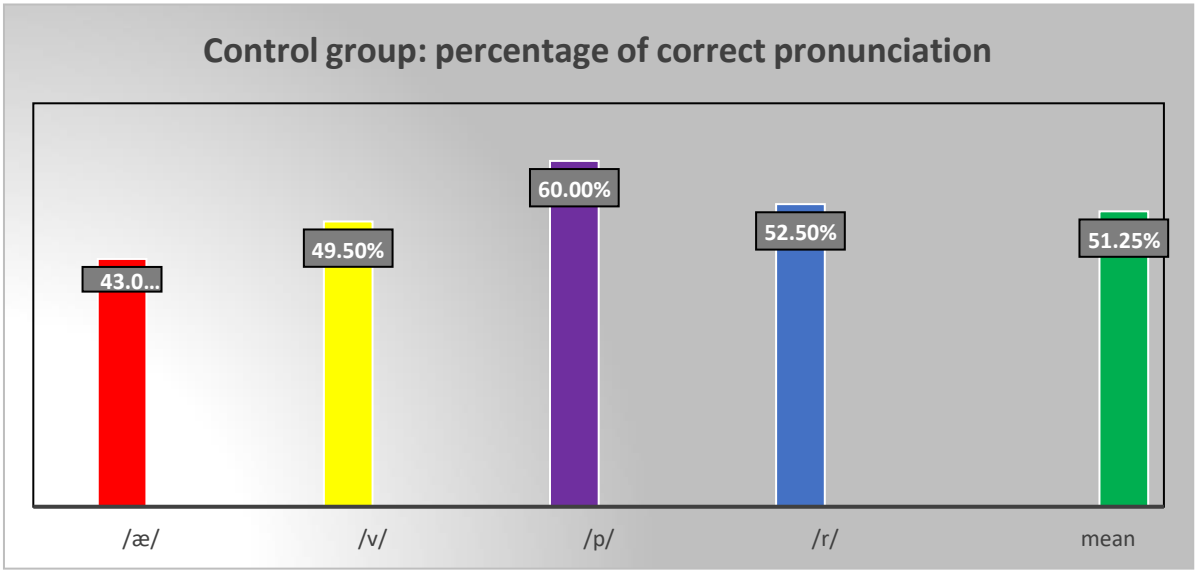


Figure 5.14.

51.25% was the control's mean for accurate answers, as seen in Figure 5.14. Nonetheless, the pronunciation of the phoneme /p/ received 60% of the right responses, having the best performance at this time. This significant improvement was probably caused by participants watching a brief video, which lasted three minutes, containing a joke about an examinee was asked to “park”, the Arab driving examiner mispronounced it as "bark", though. The candidate ultimately failed his driving exam as he was unable to "bark," and theexaminer makes fun of him. The weakest performance in the pre-test had been the phoneme **/æ/** which increased from 4 to 43 percent of accurate responses in the post-test II.

Post-test II: Percentage of accurate pronunciation for the experimental group

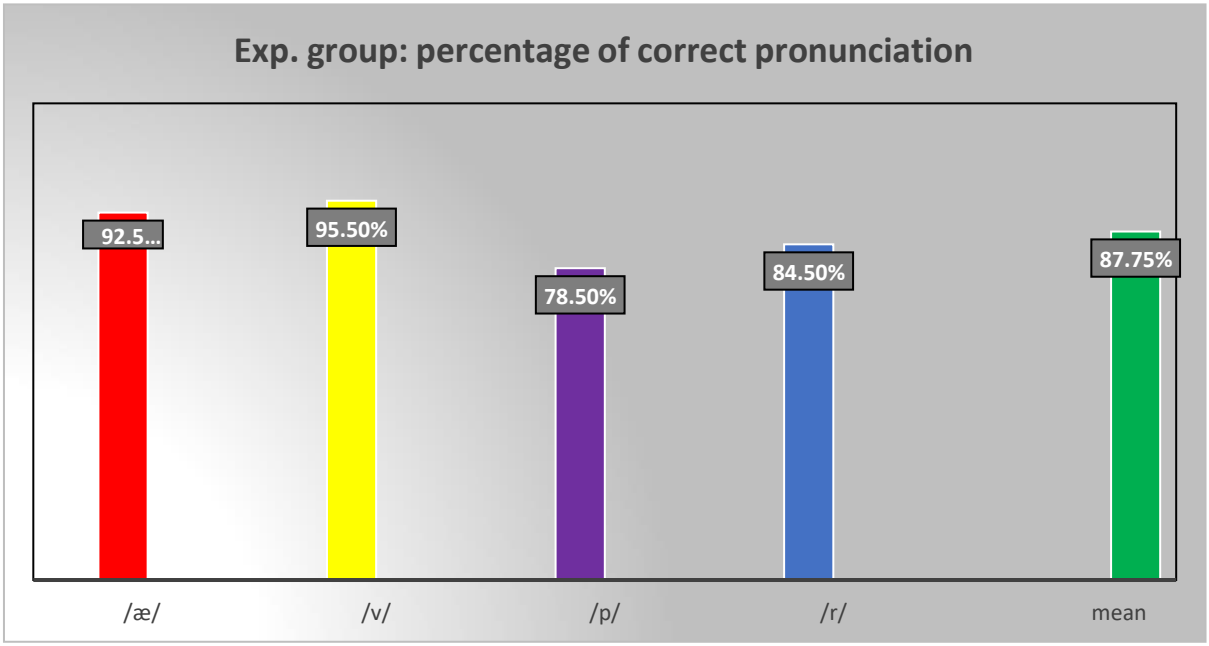


Figure 5.15.

Figure 5.15 demonstrates that, with a total of 92.5% of proper pronunciation, the phoneme /v/ was once more the most accurately produced sound. The exp. group's mean percentage of accurate responses is 87.75. The exp. group performed nearly 30% better than the control group when we compare the mean of accurate responses for the control (56.52%) and the exp. group (87.75%).

We have already spoken about how the sound improved in each group's pre-test, post-test I, and post-test II. To determine how much music helped the experimental group, it is important to compare the various performances of the two groups. In the pre-test, both groups began off uniformly; depending on the sound, performances ranged from 0,5 to a maximum of 4%. We can see from the first pre-test that music significantly helped the experimental group's pronunciation. In the pre-test, for example, the sound **/æ/** scored 27,5% correctly in the control while scored 47% correctly in the exp. group. 19,5% of the difference between the groups. This change is significantly more pronounced in post-test 2. For the sound **/æ/**, the control group answered correctly 43% of the phoneme, whereas the exp. group scored 92,5%. We have 49,5% of difference between both groups in the pre-test 2. These figures provide supporting evidence that music has a positive impact on pronunciation performance. These results are in line with research that supports the

enhancement of pronunciation when individuals are trained with music (Daquila, 2014; Moradi F. & Shahrokhi M 2014; Cortés P., 2013)

Descriptive analysis

A descriptive analysis was conducted using the Mann-Whitney U test:

The first thing we did was construct a variable of the difference between the scores of post-test 2 and the pre-test in order to test the hypothesis of whether there are differences between the pre-test and post-test2 concerning the control and exp. groups. We then employed the nonparametric Mann-Whitney U test where the hypotheses are to determine if there are differences between this variable depending on the group (since the normality of the difference variable was not fulfilled in both groups):

Ho: The means of the control and the exp. group are identical

H1: The means of the control and the exp. group are not identical

We could conclude that the increase in scores in the exp. group (mean = 13.550; standard deviation (s.d.) = 2.328; median 12) is significantly higher than that found in the control (mean = 28.600; s.d. = 2.437; median 28) since the result z = -5.447 was determined with an associated p-value less inferior to 0.001, as shown in Table 5.4.

Table 5.4. Mann-Whitney U test

	Control			Experimental				
	Mean	d.t.	Me	Mean	s.d.	Med.	z	p-vallue
Differences pre-test-post II	13,550	2,328	12	28,600	2,437	28	-5,447	< 0,001

In order to better visualize the differences in means between the control and the exp. group, Figure 5.11. was created:

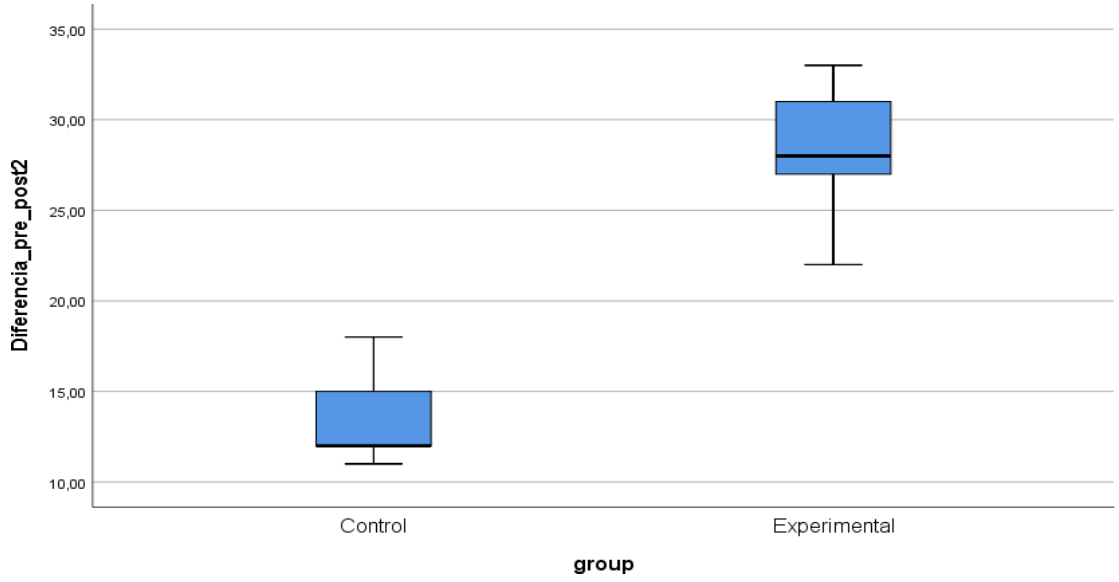


Figure 5.16. Difference in means between the pre-test and post-test2

5.3. Grammar training: The prepositions in Arabic

5.3.1. Pre-test grammar (prepositions)

Fill out the sentence with the correct preposition **if required** (on, in, at, about, for, since, from, through, to, by, with).

Table 5.5. Pre-test: preposition on

preposition on	on a farm	on an island	on indepen-dence day	on the bus	on this list	on the phone	ذي أول من ديسمبر (on the 1st of Dec.)	في التلفزيون on TV	في يوتيوب on You-Tube	على هذه م خصم on sale	percen tage of correct answer
control group	0	1	6	0	1	9	2	2	0	7	X= 2800/ 200= 14%
experiment -tal group	0	0	4	0	0	10	3	2	0	6	X=2500/ 200= 12,5%

All participants filled out the questionnaire using the preposition **in**, including in YouTube, in the bus, in the farm, and in an island, demonstrating a definite preference for the preposition (there was also one respondent who wrote Pat is **from** an island and it was considered correct). We chose to accept both "**on** the weekend" (American English) as well as "**at** the weekend" in the British version. Actually, seven people responded at the weekend.

The remaining 33 respondents, though, responded **in** the weekend. While three people used no preposition at all; **in** first of December was by far the most often utilized preposition. Regarding on sale, the participants either interpreted it as: this jeans has a discount or this jeans on sale. Although the term "jeans" was also shown in the plural form in Arabic " هالجِنز / **hal**jeanz**at**" – the suffix -at indicates plural – the demonstrative pronoun ***hal*** is used for both singular and plural in Emirati Arabic, meaning this or these. Most participants also omitted the verb to be (these jeans *are*), as all Arabic dialects and MSA, lack the present tense of the verb to be. Two of them also answered **for** sale.

Table 5.6. Pre-test: preposition in

preposition in	in different colors	in winter	in London	in the afternoon	على شارع الخير in/on Khair St.*	في أميركا in America	في الصورة (in the picture)	في ديسمبر (in Dec.)	in the car	in the taxi	percentage of correct answer
control group	18	20	20	20	20	20	17	20	20	20	X=19500/200=97,5%
experimental group	19	20	20	20	20	20	18	20	20	20	X=19700/200= 98,5%

Both **in** and **on** Khair Street were accepted as valid responses in Table 5.6. Nevertheless, 36 participants out of 40 chose the preposition **in**.

We can observe that while using Emirati English, Emiratis frequently substitute the prepositions **on**, and **at** by favoring **in**. Three participants finished the phrase using the preposition ***at*** *different colors* in lieu of ***in*** *different colors*, the most unusual collocation on this list. Five respondents translated the phrase "you can see it in the picture" as "you can see the picture". We chose to ignore the preposition **in** in the next two post-tests because we did not run into any issues with it.

Table 5.7. Pre-test: preposition at

preposition at	at Christmas	at 234 Oxford street	at alramsa@email.com	at the end of the month	at the weekend	at night	في **7** at 7	laugh at	yell at	good at	% of correct an-swers
control group	3	0	9	2	4	7	20	3	2	0	X=5000 / 200 = 25%
experimental group	4	0	11	2	3	5	19	4	2	0	X= 5000 /200= 25%

Table 5.7 displays the outcomes for the preposition at; once more, Emiratis mostly used the preposition in. Due to the collocation on Christmas day, two participants also used the preposition on in place of at Christmas. Most participants opted for the preposition in and some did not add a preposition to the statement "I live at 234 Oxford Street" (I live 234 Oxford street). More than half of the participants correctly answered "Email me at alramsa@email.com," which may be because many of them were entrepreneurs and frequently exchanged emails. 32 participants rendered the text literary: I finish from work at 7, even though just one person left off the preposition at in the statement "I finish work at 8.", as in Arabic the verb **finish** requires the preposition **from**.

It is clear that the collocation *at* to indicate an hour is widely widespread in Emirati English. The blank “laugh **at**” was mostly filled out by “laugh **on**”; in Emirati Arabic the expression is **يضحك علي.. / yaD7ak 3lay,** which literally means ***laugh on me***; some respondents also wrote the preposition **from**, “laugh **from** me”. The sentence “My mother yells **at** me” had a similar response to “laugh **at** me”; again, the preposition in Emirati Arabic is 3la (on) **على.** Nonetheless, most respondents left it bank: “My mother yells me.” Whereas three responded yells **on** me, rendering it from Arabic, literally.

Concerning **good at**, all respondents filled out this sentence using the preposition **in**, as in Emirati Arabic the preposition **fi** is used.

Table 5.8. Pre-test: preposition by

preposition by	by preparing for it	go by metro	by mistake	by chance	by credit card	by Shakespeare	by my side	by myself	by five pm	by the river	% of correct answers
control group	0	11	13	15	6	13	12	13	4	2	X=8900 / 200 = 44,5%
experimental group	0	13	13	15	4	14	11	14	3	1	X= 8800 / 200 = 44%

The outcomes for the preposition **by** are shown in Table 5.8. The majority of participants left the sentence "you can pass the exam **by** preparing for it" blank. The prepositions **from**, **since**, and **at** were all used by five people to fill out the gap. Even though many chose the term "go in metro," "go by metro" was the most popular response.

The Arabic preposition **bi**, which is mostly translated as **with** in English, is used in Arabic to signify by mistake. She did it mistaken was the result of one participant adding the letter -n to the noun mistake rather than filling out the blank. Others filled out with either the pronoun "another" or the indefinite article "a" (She made a mistake; She did it another mistake). By adding the preposition "for", two participants filled out the blank: She made it for mistake. By happenstance, the preposition bi is also used in the collocation in Arabic: **Bi** SSidfa **بـ**الصدفة, which is similar to the MSA counterpart **bi**SSudfa. It seems that Emiratis frequently use this expression and perhaps since *by* in English and *bi* in Arabic are similar, respondents have assimilated it easily. Two respondents left it empty, though.

Concerning "pay **by** credit card", it was mainly filled out with the preposition **with**. "By credit card" in Arabic is "bi bitaqa / **بـ**بطاقة". Both the prepositions *bi* / **ب** and *m3* / **مع** are mainly translated into English as *with*.

With regard to the phrase written **by** Shakespeare, in MSA no preposition is needed as the verbs themselves in MSA make the passive form. This is not true for the dialects, which express the passive voice in different manners, in Emirati Arabic it is usually expressed in the active form "Shakespeare wrote the book". The preposition *3n* **عن** which usually means *"about"* in MSA. is also used when comparing in Emirati Arabic, I am taller than you, for instance, Emirati Arabic allows two prepositions; ***3n*** or ***min***; ***min*** is the equivalent of ***from*** in both Emirati and MSA. Even though more than the majority opted for the accurate preposition (written by Shakespeare), respondents who were mistaken chose *written **from** Shakespeare*. When asked at a later stage why they had chosen 3n, one respondent confessed to having understood the sentence as: The book was written **about** Shakespeare.

Regarding “His house is by the lake” was mainly filled out with “near the lake”; nonetheless, the preposition near had been the example given: His house is__the lake. (That is, near the lake). Hence, we did not consider “near” as an accurate response. 7 respondents filled out the blank using the preposition **close**: His house is **close** the lake; no respondents filled it out with the accurate preposition **close to**, though.

With regard to *by my side*, which exists in MSA is simplified in the dialect by “***wiaai / وياي*** ”, which literally means *with me*. Nevertheless, the expression by my side is recurrent in English and more than 50% of respondents selected the accurate response. Yet, the remaining participants chose the collocation “on my side”, which, while is equally valid in English, has a distinct connotation.

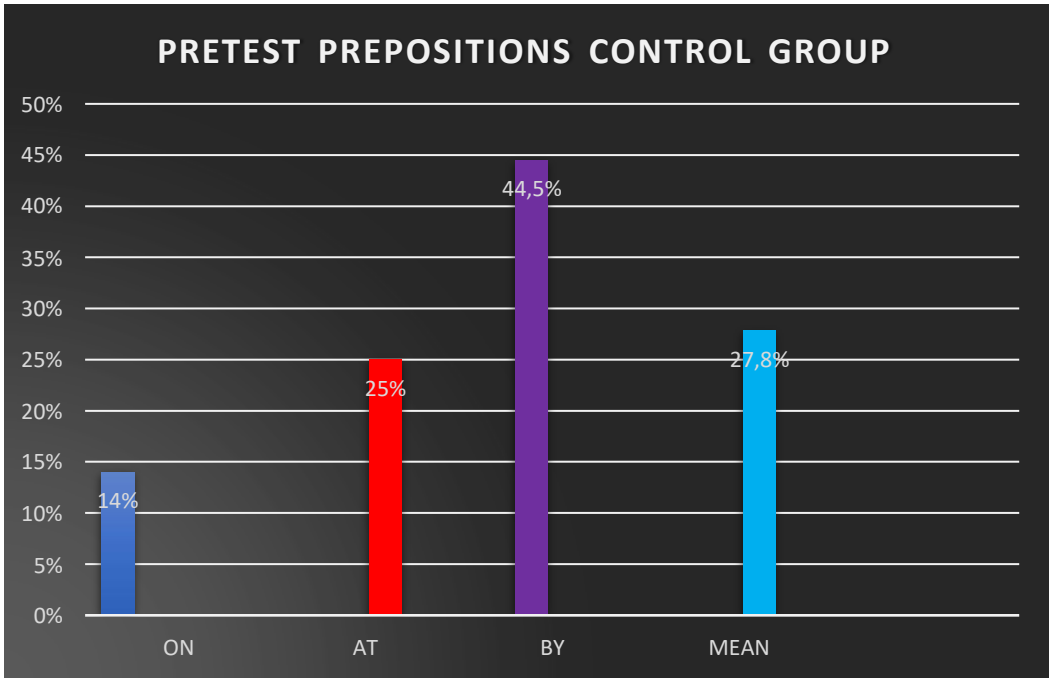


Figure 5.17. Control Group Pre-test Prepositions and mean

As seen in Figure 5.17, the preposition "on" fell behind regarding the other three prepositions. The preposition "by" performed the best. The average percentage of accurate responses in the control group was 27.8%.

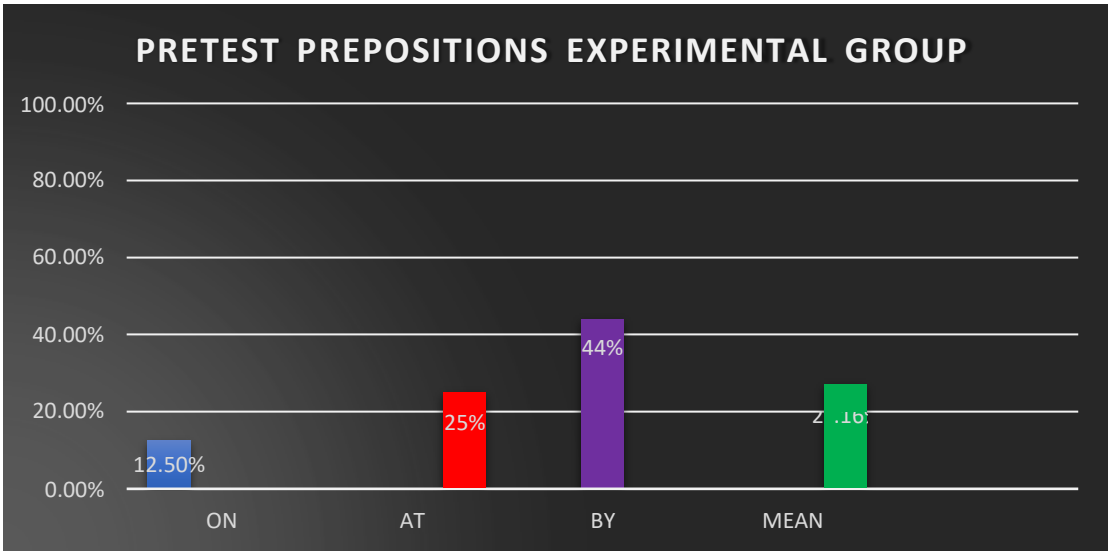


Figure 5.18. Experimental Group Pre-test Prepositions and Mean

The preposition on obtained the lowest performance, as seen in Figure 5.18, whereas the preposition by performed the best. The average percentage of accurate responses in the control group was 27,16%. Figures 5.17 and 5.18 can be contrasted to show that both groups' outcomes were similar.

Table 5.9. Pre-test results regarding gender and level of education

Total of accurate responses	Gender: male total number of accurate responses	Gender: female total number of correct answers	level of education: secondary education	level of education: University or master's degree
330	134	196	71	259

Because there were so many correct responses, we chose to exclude the preposition in from the research, hence the findings shown in Table 5.9 do not include the data from the preposition in. Let's look at Figure 5.19 below to view these figures in more detail:

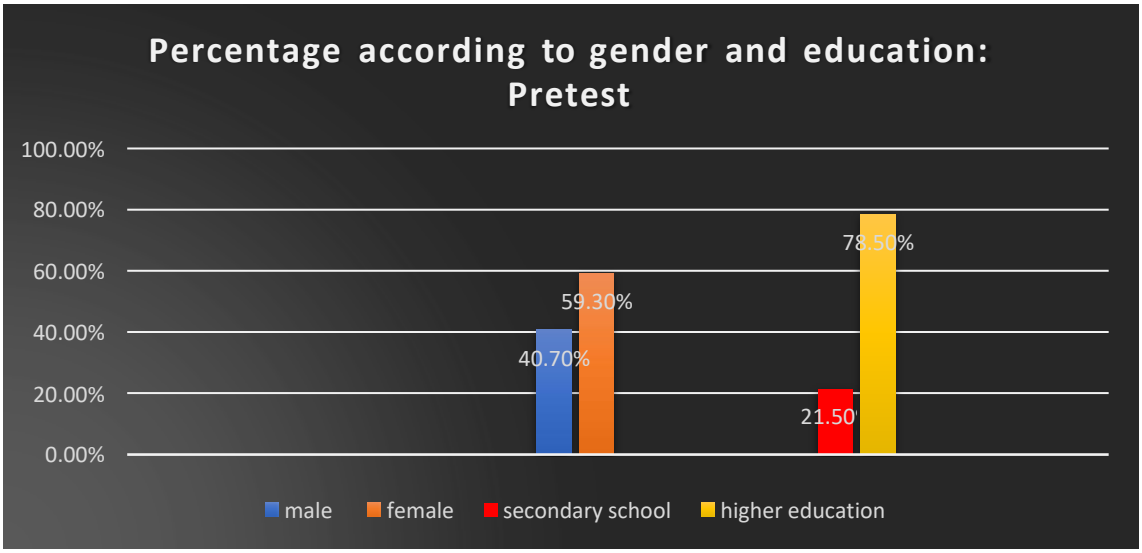


Figure 5.19 Pre-test: Percentage of accurate responses with regard to gender and education

Figure 5.19 shows that female participants performed better than their male counterparts in terms of outcomes. As 78.5% of the participants who correctly employed prepositions pursued higher education, the level of education played a significant impact as well.

5.3.2. Post-test 1 grammar (prepositions)

Fill out the sentences with the correct preposition **if requested** (on, in, at, about, for, since, from, through, to, by, with).

Table 5.10. Post-test 1: preposition on

preposition **on**	on a farm	on an island	on indepen-dence day	on the bus	on this list	on the phone	ذي أول من دِسمبر (on the 1st of Dec.)	في التلفزيون on TV	في يوتيوب on You-Tube	عليه م خصم on sale	% of correct an-swers
control group	8	9	11	9	8	14	12	11	9	13	X= 10400 / 200 = 52%
experiment-tal group	20	15	15	16	16	18	17	17	18	19	X=17100 / 200 = 85,5%

With regard to table 5.10, it is important to point out that the first two collocations that appeared in the song ("on sale, on a farm") received the most correct responses. Working memory capacity[58] can only hold between five and seven items of information, as has long been known. Our brain has a tendency to memorize the first seven items on a list or in a book.

Table 5.11. Post-test 1: preposition *at*

preposition **at**	at Christmas	at 234 Oxford street	at alramsa@email.com	at the end of the month	at the weekend	at night	في **7** at 7	laugh at	yell at	good at	% of correct an-swers
control group	4	6	14	6	11	8	20	6	6	6	X= 8700 / 200 = 43,5%
experimental group	5	10	15	7	20	8	20	8	7	14	X= 11400 / 200 = 57%

The outcomes for the preposition **at** are shown in Table 5.11. The control group and the exp. group both showed a marginal increase in their comprehension of the term "at Christmas," and this improvement was uniform across both groups. The absence of this sentence from the song can be used to explain this. To put it another way, both groups received the same kind of information; all they did was read the first sentence on the training page (see appendix I). The experimental group outperformed the control group somewhat when it came to the line "at 234 Oxford Street," which was a part of the song. Nevertheless, because there is no preposition for this statement in Arabic, it was translated from Arabic into English (I live in Oxford Street, 51), respondents rendered it literally. The collocation “at Alramsa@email.com had a uniform progression; both groups received exactly the same input because this collocation is absent in the song.

Our brain is predisposed to memorize the first seven pieces of information, as we have already mentioned. In addition to the song's real beginning, the chorus, which is repeated numerous times, is also seen as a new beginning. "On the weekend in, in the USA, during the weekend in the UK, UK," sang our chorus. I'll see you on / at the weekend was accurately translated by each participant in the experimental group.

Table 5.12. Post-test 1: preposition by

[58] Working Memory: the Psychological and Neurosciences Perspectives: A Review https://www.frontiersin.org/articles/10.3389/fpsyg.2018.00401/full

preposition by	by preparing for it	go by metro	by mistake	by chance	by credit card	by Shakespeare	by my side	by myself	by 4 pm	by the river	% of correct answers
control group	8	13	15	17	7	15	13	15	6	6	X=11500 / 200 = 57,5%
experimental group	7	14	15	17	7	16	14	15	6	16	X=12700 / 200 = 63,5%

For the aim of comparing whether there was a uniform enhancement in both the control and exp. groups, the preposition "by" mentioned in table 5.12 was purposefully omitted from the song.

The few individuals who consistently used the preposition "from" instead of the collocation "written by Shakespeare" were the minority.

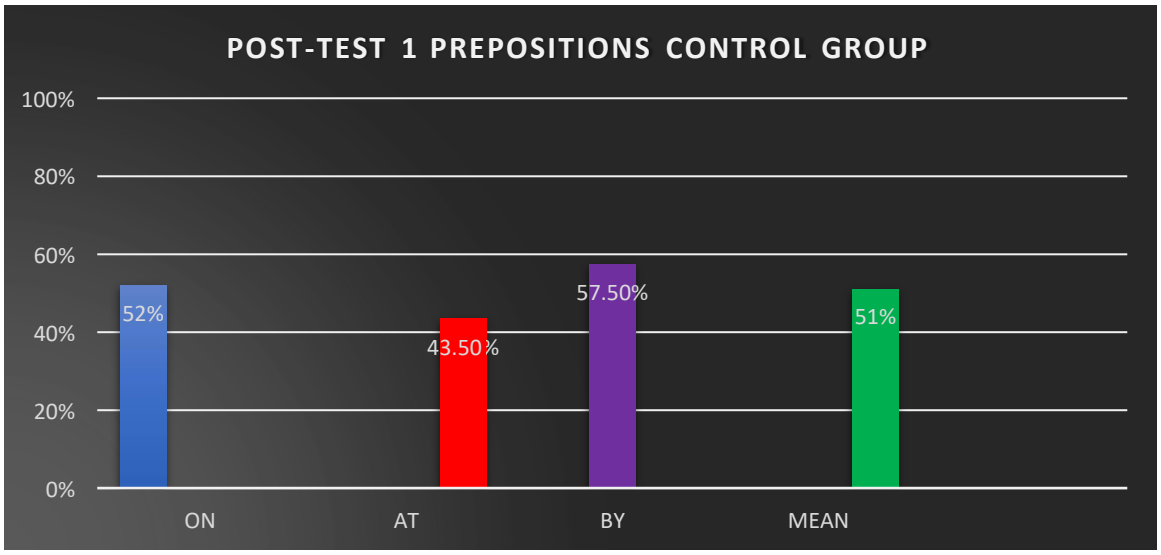


Figure 5.20. Post-test 1: prepositions control group and mean

Figure 5.20 demonstrates that the control group's mean score was 51% accurate. When contrasted with the control group’s mean in the pre-test (Figure 3), which was 27,83%, this proportion nearly quadrupled. We can attest that training enhances one's capability for L2 identification and differentiation.

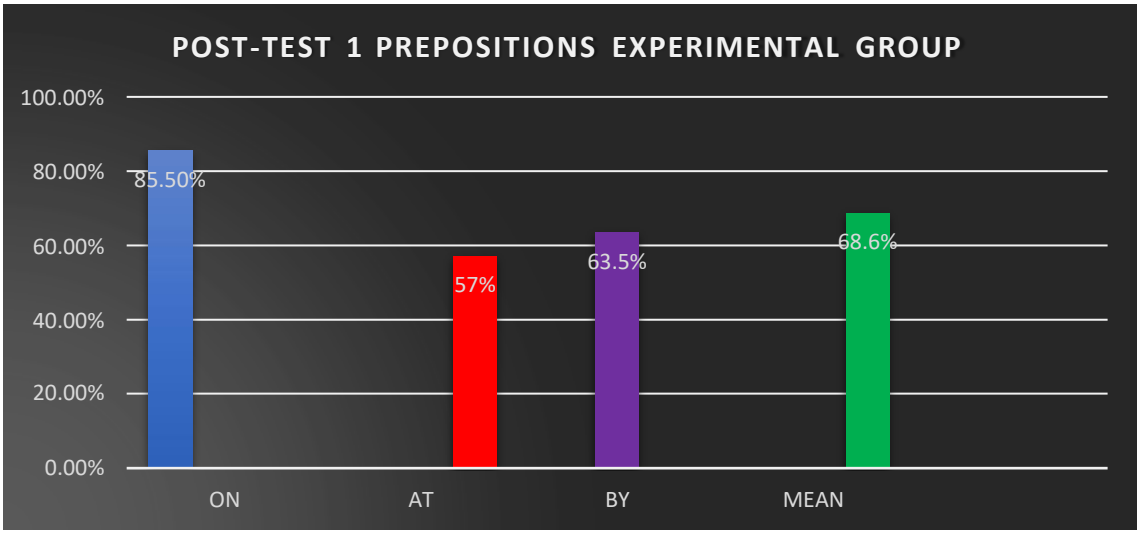


Figure 5.21. Post-test 1: prepositions experimental group and mean

Figure 5.21 displays the experimental group's Post-test 1 performance in terms of prepositions on, at, and by. When contrasted with the control group in the same post-test, better outcomes may be shown (Figure 5.20).

Table 5.13. Post-test 1: Outcomes with regard to education level and gender

Total of accurate responses	Gender: male total number of accurate responses	Gender: female total number of accurate responses	level of education: secondary education	level of education: University or master's degree
718	306	412	293	425

Table 5.13 shows that the post-test 1 supported the findings from the pre-test: Female participants and those with a master's or university degree performed better. Let's look at these figures in more detail in Figure 5.22.

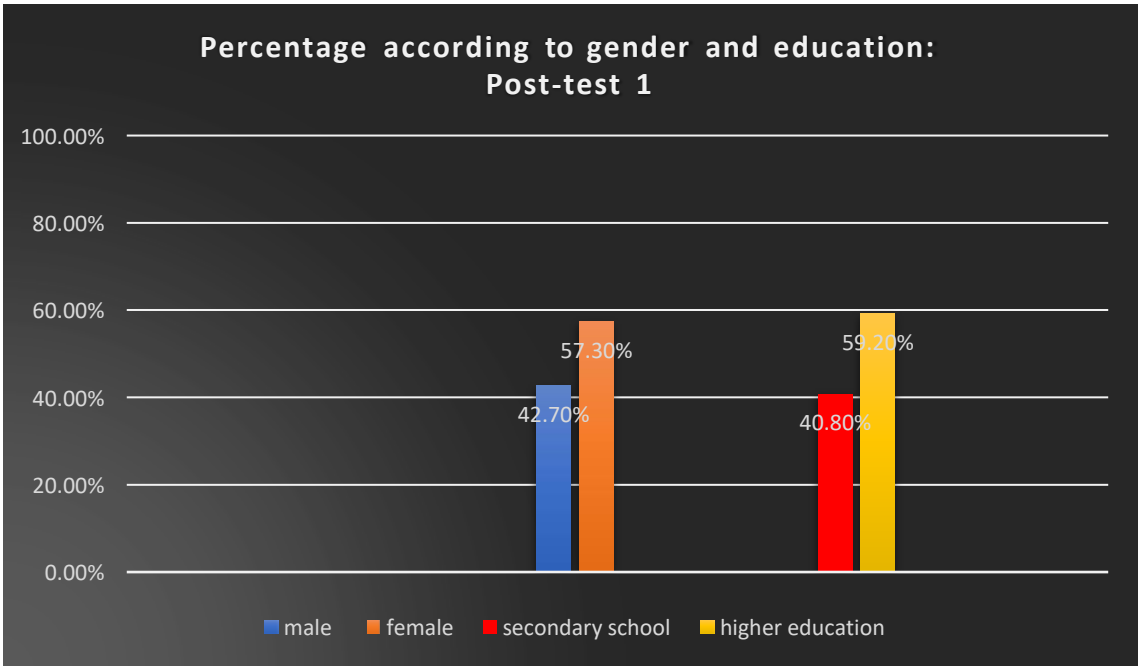


Figure 5.22. Post-test 1: Percentage of accurate responses with regard to gender and education

Figure 5.22 shows that Post-test 1 supported the findings from the pre-test: Female participants and those with a master's or university degree performed better.

5.3.3. Post-test 2 Grammar (Prepositions)

Fill out the sentences using the accurate preposition **if necessary** (on, in, at, about, for, since, from, through, to, by, with).

Table 5.14. Post-test 2: preposition on

preposition on	on a farm	on an island	on indepen-dence day	on the bus	on this list	on the phone	ذي أول من دۍسمبر (on the 1st of Dec.)	في التلفزيون on TV	في يوتيوب on You-Tube	علېه م خصم on sale	% of correct an-swers
control group	12	14	13	12	9	15	14	14	13	14	X=13000 / 200 = 65%
experiment -tal group	20	20	16	20	19	20	18	19	20	20	X=19200 / 200 = 96%

The performance of the participants with relation to the preposition **on** is shown in Table 5.14. The exp. group were close to perfection regarding **on**, and the control likewise made gains in performance.

Table 5.15. Post-test 2: preposition at

preposition **at**	at Christmas	at 234 Oxford street	at alramsa@email.com	at the end of the month	at the weekend	at night	7 في at 7	laugh at	yell at	good at	% of correct an-swers
control group	8	9	16	9	13	9	20	9	8	8	X=10900 / 200 = 54,5%
experimental group	8	19	17	9	20	9	20	11	9	20	X=142 00 / 200 = 71%

Concerning “at Christmas, at the end of the month, at night, and shout at”, they were not included in the song; nevertheless, they received again the same or almost the same number of right responses in both groups, as can be seen in Table 5.15. The data demonstrates that contrasted with the control group, where the majority continued to use good in, the word "good at present in the song" stood out in performance in the exp. group.

Table 5.16. Post-test 2: preposition by

preposition **by**	by preparing for it	go by metro	by mistake	by chance	by credit card	by Shakespeare	by my side	by myself	by 5 pm	by the river	% of correct answers
control group	12	16	17	18	11	17	16	17	9	10	X= 14300 / 200 = 71,5%
experimental group	13	16	18	19	12	17	17	18	10	20	X= 16000 / 200 = 80%

The results relating the preposition by, which was purposefully omitted from the song, are shown in Table 5.16. The control and the exp. groups both show a uniform improvement. With the exception of the phrase by the lake, which was featured in the song applied to train the exp. group, the findings in both groups are strikingly comparable. The experimental group has clearly mastered this collocation, as can be shown. It is important to keep in mind that the control group read the song's lyrics throughout each training session, but it appears that the experimental group's members mastered this collocation due to the music present in the training they received.

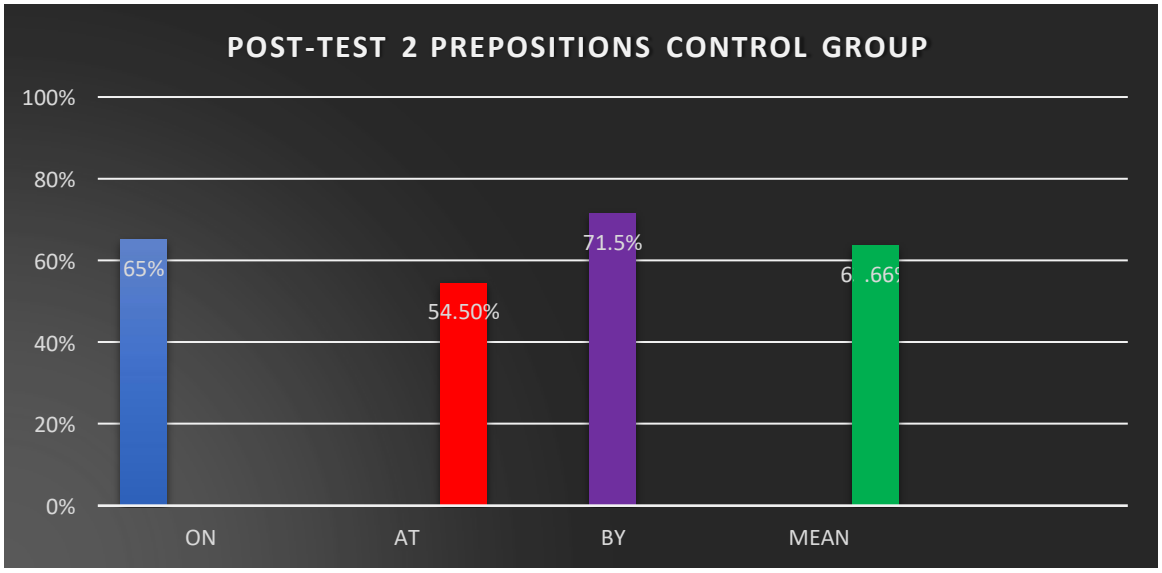


Figure 5.23. Post-test 2: Control group prepositions and mean

Figure 5.23 demonstrates that the control group's mean correct answer percentage is 63.66%. When compared to the pre-test mean for the control group (Figure 5.17), which was 27.83%, this proportion increased by more than double. Likewise, we can attest to the fact that training aids in the enhancement of L2 discrimination and recognition abilities (Daquila, 2014; Evans & Iverson, 2007; Logan & Pruitt, 1995).

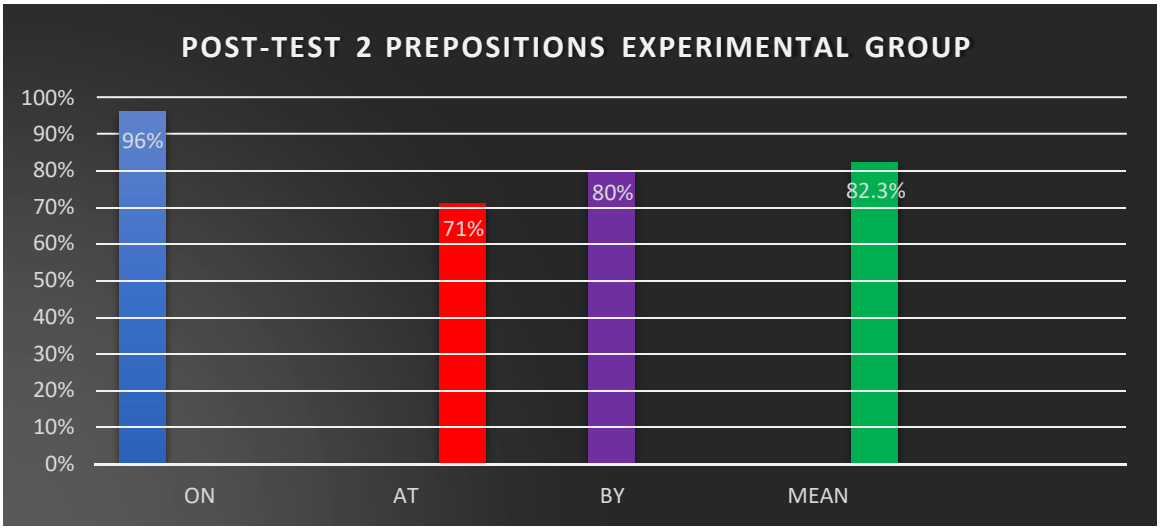


Figure 5.24. Post-test 2: Control group prepositions and mean

Figure 5.24. evidences the performance of the experimental group in Post-test 2. We observed results of almost 20% higher when compared to the control group mean (Figure 5.23).

Table 5.17. Post-test II: Percentage of accurate responses with regard to gender and Education

Total of accurate responses	Male: total number of accurate responses	Female: total number of accurate responses	Education level: secondary education	Education level: University or master's degree
876	407	469	414	462

Table 5.17 shows that Post-test II again supported the findings from Post-test 1 and Pre-test 1: Female participants and those with a master's or university degree performed better. Let's use the Figure below to better visualize these figures:

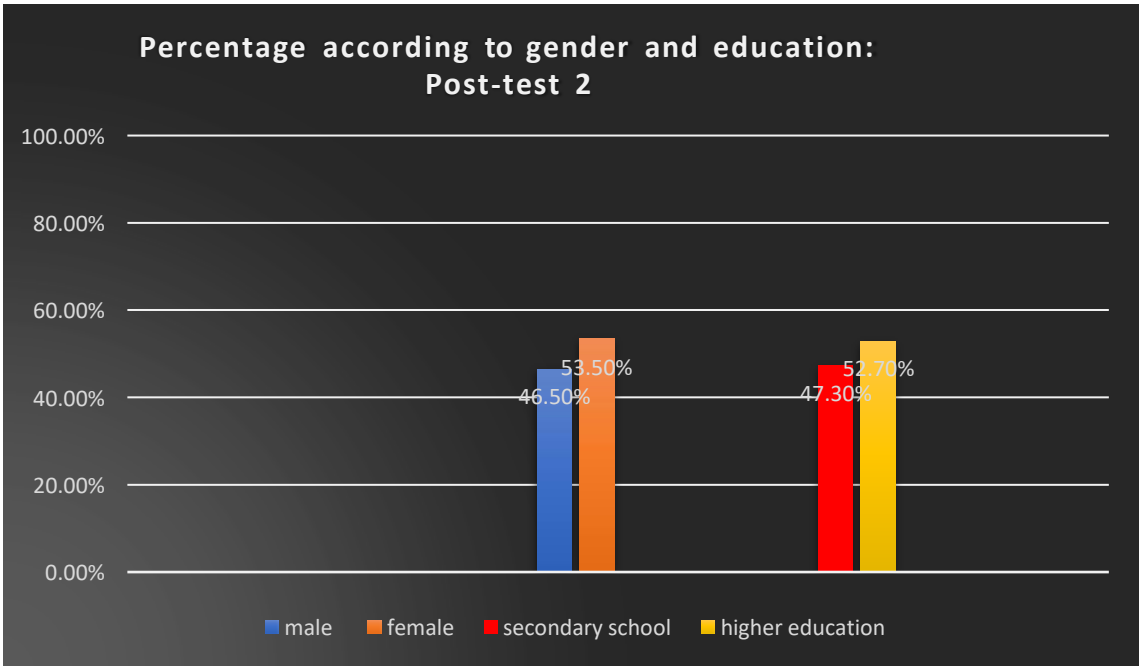


Figure 5.25. Post-test 2: Percentage of accurate responses concerning gender and education

While there is a 7% difference in accurate responses between male and female participants, Figure 5.25 shows a more homogeneous picture. Respondents who finished secondary education and those who pursued further education differed by 5%. Around 50% of the pre-test participants' education levels varied from one another.

Descriptive Analysis

A descriptive analysis was conducted using the Mann-Whitney U test.:

The first thing we did was construct a variable of the difference between the scores of post-test II and the pre-test in order to test the hypothesis of whether there are differences between the pre-test and post-test2 concerning the control and exp groups. The nonparametric Mann-Whitney U test was then used to see if there are differences between this variable depending on the group (since the difference variable's normality was not satisfied in both groups). The following hypotheses were tested:

Ho: The means of the control and the exp. group are identical. H1:

The means of the control and the exp. group are not identical.

It is concluded that the increase in scores in the exp. group (mean = 16.450; standard deviation (s.d.) = 0.759; median 17) is significantly higher than in the control group (mean =

10.750; SD = 1.070; median 11), as shown in Table 5.18 below, where a result z = -5.531 was determined with an associated p-value inferior to 0.001. The equality of means null hypothesis was therefore refuted.

Table 5.18. Mann-Whitney U test

	Control			Experimental				
	Mean	s.d.	med.	Mean	s.d.	med.	z	p-value
Differences pre-post2	10,750	1,070	11	16,450	0,759	17	-5,531	< 0,001

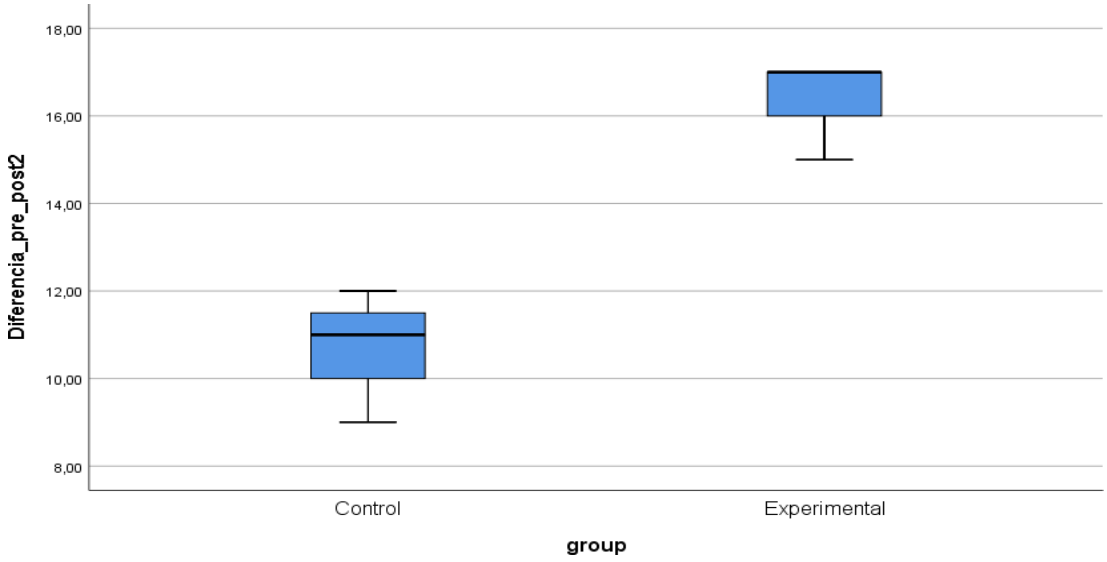


Figure 5.26. Difference in means

Figure 5.26 illustrates the differences in means between the control and the exp. group.

Participants in the exp. group were asked to complete appendix C.2 after post-test 2. Just two individuals had heard of MI, and the majority had doubts regarding the use of the intelligences to advance other fields of knowledge. The vast majority of respondents who were asked if music should be utilized in the classroom said they didn't know, and some even said it wasn't a good idea to combine learning with enjoyment. Participants ranked linguistic and mathematical intelligences as being the most significant after seeing a list of the eight intelligences. They ignored the other six intelligences.

VI. CONCLUSION

This study has focused on the analysis of high schools in Dubai and Abu Dhabi and the benefits of Multiple Intelligences when used in the classroom to help students improve any subject areas.

In the first part of our study, which analyzed high school students and alumni, we found out that in the Emirates Multiple Intelligences are still in their initial stage. Although only 27% of classes nowadays are book-centered, MI activities do not go beyond learning music for fun or to practice English. Regarding hobbies, 90% of alumni are skeptical of or against learning content through their hobbies while only 35% of high schoolers enjoyed the idea. The setting of the classes also changed drastically, from being 100% in the classroom to only 10%; high schoolers sometimes have classes in a museum, in the chemistry lab, or at a theater.

There was a changeover in the last 20 years, high schools in Dubai and Abu Dhabi switched from teaching in Arabic to English. Just 23% of the students in the high-school group currently have all content subjects in Arabic, whereas 20 years ago all the instructions were exclusively in Arabic. Homework changed from being solely individual written exercises to adding development of projects and research on internet. One aspect that has never changed is the fact that the alumni and high schoolers agree that expats do not have enough level of Arabic to keep a conversation, in the case of the alumni, only one quarter had contact with expats so they would talk more in Arabic whereas 100% of high schoolers talk to expats solely in English, which also reflects all high schoolers dissatisfaction regarding the amount of MSA instruction, while 64% of alumni were happy with the MSA they received at school.

All Emiratis participants aged over 38 said that they use Arabic script to text their friends (see, Appendix J) and many mentions that they text using Emirati Arabic, in lieu of Modern standard Arabic. More than 90% young participants aged from 18 to 20 also said they prefer to text in Emirati Arabic and that sometimes they use slang or fashionable words in English.

We could also observe that many English words are shared among Emiratis due to historical reasons, words that were mentioned by participants aged from 18 to 50, such as glass, lift, light, and wire; nevertheless, students in their adolescent years have expressed a larger preference for using English in their daily affairs. Students are becoming more proficient in English and less so in Arabic as a result of the increased exposure to English at school, in sporting and retail venues, through media, and on the internet. Additionally, the English curriculum offers a variety of programs leading to international diplomas that make it easier for students to enroll in higher education at institutions overseas.

There is no questioning that the Countries in the middle east use English as a language of instruction, albeit not entirely, in their efforts to meet global standards of development and to adapt to modernity and globalization. Nonetheless, it is essential that the children maintain an attachment to their native tongue; to do so, we suggest implementing a true bilingual system in which English is taught without harming Arabic in order to strengthen the Arabic language and identity.

The findings in the second part of our research, which focused more on pronunciation and prepositions, demonstrated that training is a successful strategy for enhancing any academic topics. A great improvement was observed after each post-test, mainly in the experimental group in which music was used as a potent stimulus to help participants to better intake the content.

Regarding the pronunciation training, the means of correct pronunciation for the control and experimental groups were very similar in the pre-test, 17,37% and 16.50% respectively. These means increased to 30,12% and 48,50% in the post-test 1; as regards the post-test 2, the control group reached 51,25% while the experimental 87,75% of correctness. The performance in the experimental group was over a third better than in the control group. Both groups received the exact same amount of training, the music used in the experimental group seems to have played a fundamental role in improving participants' production. Let us not forget that only an insignificant amount of the alumni reported being corrected when mispronouncing a word when they went to school (although the instructor had a strong Arabic accent). To demonstrate that the Critical Period Hypothesis (Lenneberg, 1967; Penfield & Roberts, 1959; Scovel, 1988) is not a determinant when phonetics is explicitly taught,

participants were aged between 28 and 38. This study is in keeping with our previous pronunciation study (Ribeiro Daquila, 2014), in which participants in the experimental group aged from 15 to 30 obtained statistically meaningful difference compared to the control group whose participants were aged from 12 to 17.

Only 2 participants of the experimental group had heard of MI, and most were skeptical about the usage of the intelligences to boost other areas of knowledge. When asked if music should be used in the classroom, the great majority answered that they did not know and some even expressed that it was not a good idea to mix learning and fun. After seeing a list with the eight intelligences, participants identified linguistic and mathematical intelligences as being the most important ones, ignoring the remaining intelligences.

With regard to the preposition training, we found out that *in* is the preferred preposition used by Emiratis; it is the preposition by default to replace *on* an *at*. In the pre-test both control and experimental groups were homogeneous, obtaining the mean of correct prepositions of 27,8% and 27,16% respectively. We would like to highlight that level of education played a key role in the accuracy of the prepositions as 78,5% of correct answers were obtained by participants who received higher education. In post-test 1 these means increased to 51% and 68,5%. Although participants who had higher education were still predominant as regards correctness, obtaining 59,2% of correct answers, the performance of high schoolers also improved. Finally in the post-test 2 the control group reached a total of 63,66% of correctness whereas the control group reached 82,3%. We can again suggest that music played an important part in the training of prepositions.

We can also infer that training reduced the differences between high schoolers, who were responsible for 47,3% of correct prepositions and participants who received higher education, who obtained 52,7% of correct answers. Women performed slightly better than men, being responsible for 53,5% of correctness.

Similar results in the experimental and control groups were found in both trainings of pronunciation and prepositions. By using the nonparametric Mann-Whitney U test in both experiments (pronunciation and preposition) we could reject the null hypothesis of equality of means, and therefore we could evidence that the increase in the scores in the experimental groups were significantly higher than that found in the control groups.

We would like to highlight that singing was the most frequent activity identified as musical in the UAE. Such passive music experiences do not serve to teach music concepts, singing skills or musical content if teachers are not trained or willing to do so. However, we would like to motivate teachers to use music in trainings in order to establish if they also obtain better results. The more research in the area, the more we can ascertain the importance of MI. It is also true that MI implementations suffer from a critical setback due to a lack of teacher acceptance. Some educators and administrators are skeptical of the potential advantages of a supposedly new concept or program because of past educational fads. Teachers must not only identify MI, but they must also have personal experience with its benefits. When instructors understand how MI may assist their students, they certainly accept it. Similarly, for children to transition from traditional learning to MI acceptance, teachers must provide guidance as well as support.

This study is in keeping with our previous study (Ribeiro Daquila, 2014) which used dance to teach pronunciation and chemistry.

We used music as an entry point, that is, music to learn and understand academic content (Gardner, 1983); nevertheless, schools and policy makers should care for musical classes with professional who can provide and assess musical growth. According to Mills, S. (2001) not even one single assessment of musical growth had been found in the MI literature from its foundation to 1999. Therefore, our study is crucial to fill this gap in the literature.

The literature on musical intelligence reveals its significance in a variety of fields of endeavor, including music therapy with Alzheimer's patients and other types of dementia (Moreira et al., 2018), for a better quality of life after a stroke (Magee et al., 2017), to reduce depression and improve general behavioral issues, in addition to improving emotional well-being and quality of life, and reducing anxiety (Wouden et al., 2018); in the educational field reveals its importance in the improvement of pronunciation, grammar and chemistry (Ribeiro Daquila, 2014, 2021, 2023).

This study presents a few limitations as well as suggestions to be improved in further research. The first restriction regards the number of participants in the training. It is possible

that having twenty participants in each group, may not be sufficient to test for homogeneity. In future studies an increase in the number of participants would undoubtedly increase the strength of the results and therefore the ability to generalize the findings of the study more accurately. Applying a similar training to other intelligences, such as naturalistic, mathematical, and inter-intrapersonal intelligences, and seeing whether comparable outcomes are produced, would be another idea. Another suggestion for future research is to examine an experimental set of informants who do not exhibit the intelligence under consideration; for example, if musical intelligence is the emphasis, the informants should not be musically inclined. We would be able to confirm the impact that the intelligence examined in such work would have on individuals regardless of their propensities for the intelligence in issue if such work still shows superior outcomes in the exp. group. To evaluate the persistence of the results' differences between the control and experimental groups, we recommend having a post-test 3 six months after the post-test 2.

In short, this study represents a second step in what we hope will be an extensive line of research on teaching, Multiple Intelligences, and learning.

VII. RESUMEN

INTELIGENCIAS MÚLTIPLES: UNA PERSPECTIVA MUSICAL EN LA ADQUISICIÓN DEL INGLÉS EMIRATÍ E INTERINFLUENCIAS ENTRE ÁRABE EMIRIATÍ E INGLÉS

I. Introducción

Los Emiratos Árabes Unidos (EAU) se constituyeron en el año 1971 después de que se encontrara petróleo en la región, lo que provocó una inmigración de nueva mano de obra principalmente a Dubai y Abu Dabi, donde el 96 por ciento de su población es de origen extranjero (Brook, 2013). En este nuevo escenario globalizado, la necesidad de escuelas internacionales fue clara y el inglés comenzó a usarse en la mayoría de los lugares públicos, como bares, cines y centros comerciales, donde el personal apenas habla árabe. Nuestro estudio pretende arrojar luz sobre la sociolingüística de los EAU y cómo este nuevo contexto en el que emergió la lengua inglesa como *lingua franca* influye en las prácticas lingüísticas de los propios emiratíes. Investigaremos si los emiratíes escolarizados aprenden a través del aprendizaje integrado de contenido y lenguas extranjeras (AICLE), ya que tienen que sobrevivir en estas ciudades de habla inglesa y si las escuelas se han adaptado a los nuevos hallazgos, a la luz de la interdisciplinariedad, la educación centrada en el individuo, el perfil (Gardner, 2006), la autoevaluación y la evaluación por pares. Para analizar estas características, hemos diseñado cuestionarios para los participantes, que también han sido grabados durante la realización de las encuestas.

Por otro lado, este estudio también tiene como objetivo hacer uso de la Teoría de las Inteligencias Múltiples (IM) como herramienta para facilitar el aprendizaje de los estudiantes, como continuación de nuestro estudio presentado en 2014 (Daquila, J.P.). La teoría de IM fue presentada por el renombrado profesor Howard Gardner en 1983. Él defiende que los seres humanos poseen ocho inteligencias y no solo una como la defendían los psicólogos antes de su teoría. Estas inteligencias son la inteligencia cinestésica corporal, musical, lingüística,

lógico-matemática, espacial, interpersonal, intrapersonal y naturalista. Nuestro trabajo se centrará en la inteligencia musical.

Para ello, se llevará a cabo un experimento en este estudio, capacitando a personas emiratíes que realmente les gusta la música (grupo experimental 1) en el dominio de la gramática y la pronunciación del inglés para examinar si hay una mejora significativa en estas áreas en comparación con el grupo de control (un grupo de participantes emiratíes, que recibirá la misma formación a través de un método tradicional: escuchar el docente y repetir). El análisis de los resultados en comparación con los resultados obtenidos en nuestro estudio anterior puede orientarnos hacia nuevos enfoques de aprendizaje, haciendo uso de las fortalezas de los estudiantes para facilitar sus áreas de debilidades.

Nos gustaría destacar que este estudio toma la música como ejemplo de una posible área de fortaleza; no obstante, otros tipos de artes pueden y deben usarse para apoyar a los estudiantes, como el teatro, la escritura creativa, la danza (que fue el enfoque de nuestro estudio anterior) entre otras.

Los dos objetivos principales de este trabajo son analizar, en primer lugar, el plan de estudios de las escuelas secundarias en Dubai y Abu Dabi, las dos ciudades más grandes e interculturales, y la interinfluencia del árabe y el inglés en dichas ciudades. En segundo lugar, nuestro objetivo es ver si la enseñanza con música demuestra ser más eficaz que la enseñanza regular como herramienta para mejorar otros dominios (gramática y pronunciación del inglés, en el caso de este estudio). En este sentido, se sugiere que la música se utilice como herramienta para los estudiantes con inclinaciones musicales como una de las opciones para superar las dificultades en otras materias; los estudiantes podrían, por ejemplo, presentar sus proyectos, estudiar para sus exámenes y hacer sus deberes usando música.

Esta tesis doctoral también plantea las siguientes preguntas de investigación con respecto al sistema educativo en las escuelas secundarias de los EAU y la aplicación de las inteligencias múltiples en el aula. Para dar respuesta a estas preguntas se utilizaron dos métodos: la elaboración de cuestionarios dirigidos a alumnos y egresados, así como grabaciones en video.

1.1. Preguntas de investigación

Estas son las preguntas a las que intentaremos responder:

P1. Debido al hecho de que los emiratíes que asisten a escuelas públicas tienen solo 5 horas de clases de inglés por semana, ¿se sienten cómodos y preparados para vivir en ciudades principalmente de habla inglesa (Dubai y Abu Dabi)?

P2. ¿Los profesores utilizan los medios disponibles (pantallas interactivas, reproductor multimedia, PowerPoint, canciones, presentaciones, laboratorio de computación) para facilitar el aprendizaje?

P3. ¿La influencia del inglés es mayor en los estudiantes de secundaria (17 - 18 años) que en los exalumnos que pertenecen a la franja de edad entre 38 y 50 años?

P4. ¿Son suficientes las 2 horas de árabe por semana para los estudiantes de las escuelas internacionales en Dubai y Abu Dabi para promover conversaciones en árabe entre los emiratíes y expatriados?

P5. ¿Cómo se refleja la gramática árabe en el inglés utilizado por los emiratíes y viceversa?

Por otro lado, para investigar la efectividad de la enseñanza de contenidos a través de la música se plantearon las siguientes preguntas de investigación:

P6. ¿Existe una diferencia en el resultado entre los participantes del grupo de control, que aprenden a través de la música y el grupo experimental, cuyos participantes aprenden a través del aprendizaje convencional (lectura y repetición del contenido)?

P7 ¿Son los resultados similares a los obtenidos en nuestro estudio anterior (Daquila, 2014), en el que los contenidos impartidos a través de la danza (grupos experimentales 1 y 2) obtuvieron una diferencia estadísticamente significativa respecto al grupo control (grupo de estudiantes de secundaria capacitados de forma tradicional, leyendo y repitiendo el contenido)?

1.2. Motivación

Lo que me motivó a investigar en los Emiratos es la falta de estudios académicos sobre el país en comparación con otros países árabes. De igual modo, tal interés proviene de mi experiencia como editor, traductor y corrector de libros emiratíes en el Instituto Alramsa de

Dubai; ya que mientras traducía algunos libros me di cuenta de la influencia que tiene el inglés en el árabe emiratí. Un otro elemento es que durante mis primeras visitas a los EAU me percaté de la dificultad de encontrar residentes que hablaran árabe mientras hacía la compra, tomaba un taxi o pedía la comida, por ejemplo. Esto no sucede en otros países árabes; incluso en otros países del Golfo, que son los países que tienen menos residentes locales, podemos encontrar más hablantes de árabe que en los Emiratos Árabes Unidos. En Bahréin, por ejemplo, el 46% de la población es bahreiní, mientras que otro 4,7% son árabes de otros países. Aunque en Qatar solo el 14% son qataríes, hay otro 18% de árabes que viven en el país, principalmente egipcios que trabajan como farmacéuticos, taxistas, camareros, etc. Fuera del Golfo, en Egipto, por ejemplo, los egipcios representan el 91% de la población. Esto hace que el árabe sea el idioma más hablado en otros países árabes, a diferencia de los Emiratos Árabes Unidos.

Este trabajo se desarrolla de la siguiente manera: Tras esta Introducción, la sección II presenta el resumen histórico, sin el cual no podemos entender la interinfluencia del inglés y el árabe. Luego, en la sección III tenemos el marco teórico y conceptual que se utilizará en este estudio; tractando principalmente de la Teoría de las Inteligencias Múltiples y la fonética. La sección IV explica el Método que hemos utilizado en este estudio. En la sección V tenemos los resultados y la discusión, y es seguida por la sección V, la conclusión.

II. Resumen histórico

El resumen histórico es esencial para poder entender el desarrollo de la lengua inglesa y el árabe emiratí en los EAU. Hay tres períodos de cambio lingüístico en los EAU. Utilizando el "modelo dinámico" de Schneider (2007) se identificaron:

1. La "fase de fundación" (1809 - 1966) cuando se introdujo el inglés.

2. La segunda fase de "estabilización exonormativa" (1966-2004)

3. La fase de "normalización" (2004 hasta la actualidad). Nuestra pregunta central es cómo el inglés en estos tres períodos ha sido influenciado por el árabe estándar moderno y el árabe emiratí.

2.1. El período de fundación: la introducción del inglés (1809-1966)

Los vínculos entre los Emiratos Árabes Unidos y Gran Bretaña se remontan a más de 220 años. Antes del siglo XIX, el interés británico en el Golfo se limitaba a tres áreas: la ruta de navegación entre Bombay y Basora, que conectaba la India con Gran Bretaña a través de Alepo; el comercio de la Compañía de las Indias Orientales con Irak, Irán y Omán; y la protección de los buques británicos sujetos a la región. Los británicos no tenían ningún interés en el Golfo más allá del puerto de Mascate en el Yemen. Todo eso cambió en 1797 cuando los árabes del bajo Golfo amenazaron el transporte marítimo indio británico. Los gobiernos británicos de Bombay y la India consideraron el cobro de peajes y los allanamientos marítimos como extorsión y piratería. Creían que Qasimi, la familia gobernante de Sharjah, Ras al-Khaimah (hoy en día son dos de los Emiratos que constituyen los EAU) y Lingah están detrás de estas maniobras. En 1809 y 1819 los británicos enviaron expediciones a varios puertos de Qasimi, ésta puede considerarse la primera fase lingüística (Schneider, 2007), la "fase de fundación" cuando los locales tuvieron los primeros contactos con el inglés. Los lazos que los EAU tienen con Inglaterra fueron más allá cuando en 1820 los británicos pudieron imponer un tratado contra la piratería, conocido como Tratado General, que eran acuerdos con Emiratos individuales que dieron como resultado un área conocida como "Los Estados de la Tregua" hoy en día conocida como Los Emiratos Árabes Unidos. Los Emiratos acordaron no ceder ningún territorio excepto al Reino Unido y abstenerse de comprometerse con cualquier

gobierno extranjero que no sea el Reino Unido sin el consentimiento previo de los británicos. A cambio, los británicos prometieron proteger la costa y la tierra en caso de un ataque.

2.1.1. La estabilización exonormativa: el inglés como lengua de administración y educación (1966-2004)

En 1966, Shaikh Zayed Bin Sultan Al Nahyan llegó al poder en Abu Dabi y comenzó a gobernar los Estados de la Tregua. Dos años más tarde, los británicos retiraron todas sus tropas; sin embargo, los colonos británicos no abandonaron la zona. La explotación de petróleo y gas proporcionó empleo a cientos de la población indígena y alentó un desarrollo espectacular bajo la dirección de profesionales extranjeros. Prácticamente, todos los primeros directores de obras públicas, educación y servicios médicos fueron británicos, y la unidad del ejército estaba dirigida por oficiales británicos. A medida que las ciudades del Golfo crecieron, todas las instalaciones, puentes y edificios fueron diseñados por arquitectos e ingenieros británicos. El British Council estaba a cargo del desarrollo de la educación secundaria en la mayoría de los shaikhdoms del Golfo y proporcionó becas universitarias para que cientos de estudiantes del Golfo estudiaran en Gran Bretaña.

De acordo com Boyle (2012, pg. 319), “a comunidade britânica cresceu de alguns milhares na época da independência para cerca de cem mil”. O inglês se tornou a língua franca do país e era o inglês na indústria de petróleo e gás, aviação, transporte marítimo, comércio era a língua do trabalhador migrante do sul da Ásia, que compreendia uma grande parte da comunidade. O inglês foi considerado a língua da modernização para a comunidade indígena (Davidson, 2007). Como o número de estrangeiros continuou a aumentar, logo os próprios emiratis se tornaram uma minoria lingüística e étnica em sua própria terra.

2.1.2. El período de nativización (2004 hasta la actualidad)

La nativización es el período más reciente de Schneider (2007) según su" modelo dinámico "aplicable a los EAU. Este período es continuo y, por lo tanto, no está bien definido. Karmani (2005) sugiere que el gobierno de los EAU modernizó y occidentalizó con entusiasmo el sistema educativo, dejando atrás el sistema educativo obsoleto. Según Boyle (2012), esta tercera fase del 'modelo dinámico' de Schneider comenzó en 2004, cuando el gobierno de Abu Dabi inició una rápida diversificación de su economía: alta tecnología e industria pesada,

centrales nucleares y expansión del turismo de lujo y cultural. Estos proyectos dieron lugar a un rápido aumento de la población de expatriados de 3,3 millones en 2005 a 7,24 millones en 2010 (Al-Khouri, 2010).

2.2. Árabe estándar moderno y árabe emiratí

El árabe estándar moderno (MSA) es el idioma omnipresente para todos los hablantes de árabe educados. Representa un alto nivel de árabe, utilizado en obras literarias, instituciones educativas, periódicos y transmisiones de televisión (excepto programas de entrevistas y comedias de situación). Según W. Labov (1966), el lenguaje es dinámico y evoluciona a lo largo del tiempo con su sociedad. Los dialectos forman muchas variantes habladas del idioma árabe y cada dialecto tiene sus propios rasgos y su propia evolución. En los dialectos del Golfo encontramos el árabe emiratí o Al Ramsa al Emaratia (الدمسة الاماراتية) hablado en los Emiratos Árabes Unidos. El árabe emiratí tiene como base el MSA, sin embargo, está influenciado por el persa, el urdu, el hindi y sobre todo por el inglés.

Desde el establecimiento de los EAU, el árabe emiratí pasó por muchos desarrollos como reflejo de la estructura demográfica de la sociedad. Por ejemplo, los EAU se convirtieron en un destino para inmigrar y trabajar para muchos árabes y otras nacionalidades que desembarcaron en los EAU en busca de oportunidades laborales. Esta afluencia de lenguas vernáculas multinacionales provocó la necesidad de un método estándar de comunicación. Como resultado, el árabe emiratí que se utiliza para la comunicación multinacional recibió influencias de otros dialectos árabes, así como muchas palabras prestadas de otros idiomas extranjeros.

En árabe se lee y se escribe de derecha a izquierda, a diferencia de los idiomas romanos e inglés, que se escriben de izquierda a derecha. El alfabeto árabe consta de 28 letras: 25 consonantes y 3 vocales largas. Por motivos didácticos separaremos estas 28 letras en tres grupos:

Grupo 1: 18 sonidos iguales o muy cercanos a los sonidos del inglés.

Grupo 2: 3 sonidos que no ocurren en inglés, pero que se encuentran en otros idiomas europeos.

Grupo 3: 7 sonidos exclusivos del idioma árabe.

Cuadro 2.1. Grupo 1: Suena igual o muy similar a los sonidos en inglés

Arabic letter	English Transliteration	Phonological traits	Examples
ب	b	sonido de /b/	como en **b**ull, **b**a**b**y
د	d	sonido de /d/ sound	como en **d**uck, a**d**ult
ذ	dh	sonido sonoro do **th**	como en mo**th**er, **th**ere
ف	f	sonido de /f/	como en **f**ine, **f**or
ه	h	sonido de /h/ do inglés, nunca mudo como em español[59]	como en **h**orse, **h**ello
ج	j	sonido de/ʒ / ou /g/	como en **j**eans (in most Arab countries), but also como en /**g**oat/ [60]
ك	k	sonido de /k/	como en **c**at, **k**ey; but less aspired
ل	L	sonido de /l/	como en **l**aw, ca**ll**
م	m	sonido de /m/	como en **m**om, **my**
ن	n	sonido de /n/	como en **n**oon, a**nn**ual
س	s	sonido de /s/	como en **s**ound, **s**on; pero nunca /z/como en de**s**ert
ش	sh	sonido de /ʃ/	como en **sh**oe, **sh**ine
ت	t	sonido de /t/	como en **t**art, **t**oe

[59] In English the /h/ sound of the objects *him* and *her* are not pronounced in informal conversations.

[60] The sound /j/ in Emirati has two more allophones: sometimes it is pronounced as in **y**oung, (the word new in MSA jadid, is pronounced yayid); or as in goat (the word heart in MSA qalb, is pronounced galb)

ث	th	sonido de /θ/	como en **th**ank, **th**ink (pero no como en **th**ese, ver dh anteriormente)
ر	r	sonido de /r/	/r / vibrante como en pero en español y también la r escocesa.
و	w	sonido de /u:/	como en pool, m**oo**n
ي	y	sonido de /i:/	como en bee, t**ea**
ز	z	sonido de /z/	como en zoo, bu**zz**

2.3. La influencia del inglés en los dialectos árabes

Nadie puede negar que el inglés es hoy en día un idioma global. El estado actual del inglés es el efecto de la expansión colonial británica a principios del siglo XIX y el surgimiento del poder económico de los Estados Unidos en el siglo XX. Según el lingüista David Crystal (2003) existen varias razones para que el inglés sea el idioma global. En primer lugar, el inglés se considera el idioma de los negocios y el comercio internacional; esa sería una razón económica. Por razones prácticas e intelectuales, el inglés se convirtió en el idioma de la ciencia, por ejemplo, en conferencias académicas y en sistemas tecnológicos. El inglés es también el idioma principal de las transmisiones por satélite, el turismo y la música popular. Crystal considera que estos elementos incapacitan a otros idiomas para mantener sus valores sin la influencia del inglés. Después de la colonización, Gran Bretaña y Francia dejaron la huella de sus lenguas en el mundo árabe. Después de obtener la independencia, los países árabes iniciaron un proceso de arabización, buscando una identidad árabe. Hoy en día, el francés y el inglés todavía se adoptan ampliamente debido a las demandas económicas y turísticas. Sin embargo, en el mundo árabe, estos idiomas están asociados con una mentalidad abierta y crean mejores oportunidades laborales. Podemos notar una preferencia por el inglés en el área del turismo en lugar del francés, incluso en Túnez, que permaneció bajo el control francés durante 75 años (Spolsky, 2004: 135). El inglés también prevalece en Egipto y principalmente en los Emiratos Árabes Unidos. Esto puede explicar el hecho de que cada año

más y más familias matriculan a sus hijos en escuelas internacionales en los Emiratos, según la KHDA los 32,911 estudiantes emiratíes se matricularon en las escuelas privadas en Dubai en el año escolar 2019/2020, esta cifra fue menor. de 30.000 en el año anterior. La mayoría de estos emiratíes acuden a escuelas estadounidenses o británicas.

Hoy en día podemos notar en los medios de comunicación una tendencia creciente a utilizar palabras o incluso dibujos animados y anuncios completos en inglés. Durante la conferencia "La lengua del niño árabe en la era de la globalización", el secretario general de la ISESCO, Abdel Aziz Al-Twigrii, planteó el problema de que el "mundo comercial" corrompe el árabe, principalmente entre los niños. Hoy en día, los jóvenes constituyen la mayoría en el mundo árabe, lo que puede dar lugar a variaciones lingüísticas (Bassiouney, 2009). Un estudio reciente (Al-hussien & Belhiah, 2016) que involucró a estudiantes de octavo y noveno grado, padres y maestros reveló que más del 80% de los estudiantes prefieren leer y escribir en inglés. En cuanto a sus emociones, la mitad de los estudiantes dijo que les resulta más fácil expresarlas en inglés. En lo que respecta a Internet, el 98,6% de los estudiantes expresaron sus preferencias por el idioma inglés. El árabe solo fue dominante con respecto al idioma que los estudiantes usaban para hablar con sus amigos (54%) y el idioma que usaban cuando hablaban con miembros de la familia (90,7%).

2.3.1. Posibles efectos de las preposiciones árabes en el inglés emiratí

Hay un error colosal en la mayoría de los libros en inglés para árabes con respecto a la preposición. Las preposiciones más frecuentes en árabe se traducen a su significado principal en inglés. Estas preposiciones son las siguientes:

Tabla 2.2. Preposiciones en árabe, transliteración y traducción habitual al inglés

Árabe	Transliteración	Español
في	fi	en
إلى	ilā	para / hacia
على	3lā	sobre / encima de
من	min	de (origen), proveniente de
ب	bi	en / con

Sin embargo, estas preposiciones no siempre corresponden a estas traducciones. Por lo tanto, es común encontrar emiratíes y árabes en general que tienen dificultades para usar las preposiciones correctas en inglés. Echemos un vistazo a algunos ejemplos:

Los emiratíes dicen literalmente en inglés: como en el restaurante cuando se refieren a que como en un restaurante. Esto sucede porque en árabe se usa la preposición min (de):

أكل من المطعم. Akil **min** almat3m. (Como **del** / **proveniente del** restaurante)

O en la siguiente frase: Estoy casado **proveniente de** ella, en lugar de decir que estoy casado con ella.

Ana mitazawij **min**ha. (Estoy casado **con** ella)

Los emiratíes suelen decir: estoy **dentro de** mi camino cuando quieren decir: estoy en mi camino. Esto ocurre debido a que la preposición fi suele traducirse como en, como explicamos anteriormente.

انا في الدرب. Ana fi darb.

También hay casos en los que una preposición está ausente en inglés y está presente en árabe:

Los emiratíes suelen decir en inglés: la biblioteca está cerca de la universidad, pero quieren decir: la biblioteca está cerca de la universidad.

المكتبة قريبة من الجامعة. Almaktabat qariban **min** aljam3a.

La traducción literal es: La biblioteca está cerca **proveniente de** la universidad.

2.3.2. Posible interferencia de tiempos verbales del árabe en el inglés emiratí y verbos de origen inglés

Un tema muy estudiado y discutido por los lingüistas son los tiempos verbales en árabe. A diferencia de las lenguas inglesas y neolatinas, el árabe usa algunas formas sustantivas que expresan las ideas de los tiempos.

Además de las diferencias antes mencionadas, el árabe tiene menos tiempos en comparación con el inglés, por ejemplo, "Ana akul", literalmente significa " Yo como", pero también puede significar "estoy comiendo". Observe que el prefijo a- indica el presente de la primera persona del singular. Ana akalt, en el dialecto puede significar “Yo comí / tú comiste; yo estaba / tú estabas comiendo/ yo comía o tú comías; yo he comido/ tú has comido”; el sufijo -t indica una acción en el pasado realizada por la primera persona del singular o la segunda persona del singular masculino; observe también la ausencia de un tiempo condicional puro, ya que el tiempo pasado en dialectos y en MSA se puede traducir a tres tiempos diferentes en inglés (e incluso más). Tales diferencias hacen que los árabes no usen el tiempo verbal adecuado al hablar inglés.

Algunos verbos que fueron mencionados por nuestros participantes como parte de su vocabulario diario mientras hablaban árabe emiratí fueron los verbos cargar (el portátil, el móvil), cancelar, comprobar y terminar, que se adaptaron perfectamente a la conjugación y a los tiempos verbales del árabe. Sin embargo, el verbo terminar se aplica solo para significar ser despedido o dejar un trabajo: (**Ana**) **a**finish (**Yo** renuncio a / dejo mi trabajo). En el pasado tendríamos: finishe**t**. (**Yo** renuncié a mi trabajo). Para expresar la idea de ser despedido, se utiliza el sujeto plural hum (ellos, ellas): (hum) finish**oony** (Ellos /ellas **me** despidieron); finish**ooha** (Ellos / ellas **la** despidieron).

2.3.3. Alternancia de códigos y elementos lexicales árabes en inglés

La alternancia de código es el uso alterno o mixto de dos o más lenguas dentro del mismo discurso. La alternancia de código es un fenómeno muy común entre los emiratíes. Ambos, cuando hablan árabe emiratí y usan palabras en inglés o cuando hablan inglés y usan elementos lexicales del árabe. Este capítulo se centrará en el último fenómeno. Hay muchas razones para este proceso lingüístico. Uno de ellos puede deberse a la falta de equivalentes en inglés o puede indicar afecciones emocionales del hablante con la L1, en este caso, la lengua árabe. Tres frases típicas presentes no solo en árabe emiratí, sino en árabe en general son wallah, in sha ’Allah y ma Sha’ Allah. Analicemos estas tres expresiones en oraciones:

Wallah, no conté tu secreto a nadie.

El uso de wallah en lugar de usar “lo juro por Dios”. Esta alternancia de código puede explicarse por las relaciones emocionales del hablante con Alá, el Dios del Corán, no es lo mismo decir Señor o Dios que usar el nombre original del Corán. Ya que cualquier traducción del libro sagrado es inaceptable para los musulmanes.

In sha 'Allah aprobaré mi examen de conducir.

Esta frase común utilizada en el mundo árabe tiene dos posibles significados. El primero es 'Si Dios quiere; ojalá', literalmente 'Si Dios quiere' como lo tenemos en la oración antes mencionada.

In sha 'Allah nos reuniremos el fin de semana.

In sha 'Allah es también una forma muy educada de declinar en la cultura árabe. Por lo tanto, si le propones algo a un árabe y él responde in sha 'Allah, existe una gran posibilidad de que no haga lo que está diciendo.

¡*Ma sha 'Allah*, tu nuevo auto es hermoso!

El uso de *ma sha 'Allah* en lugar de explicar esta compleja expresión árabe, cuya traducción más cercana sería "Dios lo ha querido". *Ma sha 'Allah* se usa para expresar alabanza y para evitar el mal de ojo. Entonces, nuestra oración significaría: ¡Madre mía, felicitaciones! No te estoy echando el mal de ojo; tu auto es hermoso. Aquí podemos inferir tanto un afecto con la L1 - por la presencia de Alá - como economía del lenguaje, ya que la expresión en árabe es mucho más concisa que en inglés. Siempre que alabamos a alguien o la posesión de alguien en los Emiratos Árabes, tenemos que usar *ma sha 'Allah* al principio oal final de la oración. Comparativamente, esta expresión no se usa tanto en Marruecos comoen los Emiratos Árabes Unidos.

La alternancia de código también depende de la clase social y la identidad nacional. El hablante educado tiende a cambiar a un lenguaje más formal cuando habla de religión, economía o política. Otra razón sociolingüística para la alternancia de código es crear solidaridad (Gumperz, 1976). Los hablantes de árabe en Jordania tienden a cambiar su L1 al inglés para enfatizar o aclarar un enunciado. Aunque una persona no árabe puede hablar árabe con fluidez, el hablante nativo del árabe cambia al inglés para asegurarse de que ha

sido entendido o incluso para ganarse más respeto por parte del interlocutor no árabe (Abu Melhim 1991: 242). Un otro estudio analizó diálogos entre un alumno de Jordania con un otro del Egipto en los cuales ambos alternaban entre los dos dialectos, el hablante del árabe egipcio integraba elementos del árabe de Jordania y viceversa (Almahmoud, 2021). El estudio de AlMahmoud (2021) está más en línea con nuestro actual estudio, ya que nos centramos en la interacción entre los emiratíes o los emiratíes que interactúan con otros hablantes de árabe (ver Apéndice J).

2.3.4. Elementos léxicos del inglés en árabe emiratí

El cambio de código se podría considerar como un signo de eficiencia del lenguaje, cuando un emiratí usa, por ejemplo, palabras tecnológicas que se usan con frecuencia en inglés, como el cargador de teléfono celular, en lugar de usar el cargador equivalente árabe (shaa7in). Los emiratíes solían decir cargador, porque cuando va a cualquier tienda de teléfonos móviles, lo más probable es que tengan que expresarse en inglés. En Dubai Mall, *Mall of the Emirates* (Dubai) y *Mall of Abu Dhabi*, por ejemplo, las tiendas iPhone y Samsung, los supermercados, los restaurantes y los carteles están todos en inglés, apenas podemos encontrar miembros del personal que hablen árabe.

Hoy en día, debido a la tecnología y al uso del inglés como lingua franca en las grandes ciudades como Dubai y Abu Dabi, ha habido un aumento en el uso de palabras y verbos en inglés en árabe emiratí. Todas las siguientes palabras se encuentran comúnmente en emiratí:

Glass (vaso), good luck (buena suerte), pendrive, charger (cargador), already (ya), online (en línea), yes (sí), same (igual), business (negocio), nice (agradable), gym (gimnasio), bye bye (adiós), tour, private (privado) y metro entre otras.

Como podemos ver en el extracto a continuación para principiantes del libro de dialectos emiratíes del instituto AlRamsa:

Maryam: ok, yallah neseer al ***food court*** b3ad el ejtema3 3alla tool.

Maryam: Bien, vayamos al **patio de comidas** inmediatamente después de la reunión.

Los siguientes verbos se utilizan normalmente en el árabe emiratí. Mantienen las mismas reglas de conjugación que los verbos árabes.

Cancel (cancelar) /check (verificar) / download (descargar) / park (aparcar) / finish (terminar, con el significado de dejar un trabajo o ser despedido)

Por ejemplo: Ana *abark* huni. Aparco aquí. Tenemos el prefijo a- que se usa para la primera persona del singular de cualquier verbo árabe. Dependiendo del hablante, pronunciará abark, ya que no hay una letra *p* en árabe y los árabes usan b en su lugar; otros hablantes con mejor conocimiento de inglés pronunciarían apark.

También hay palabras en inglés que tratan con cuestiones mecánicas tomadas de una lengua de la India y, por lo tanto, modificadas para adaptarse a la pronunciación árabe, palabras como "draivel" es una pronunciación modificada de la palabra inglesa "driver"; “Motar”, que significa “coche”, es una pronunciación modificada de la palabra inglesa “motor” (Fardan H. & Kaabi, 2014).

2.4. Escuelas de música y tradición musical en Abu Dabi y Dubai

Las escuelas de música en las dos ciudades más grandes de Dubai y Abu Dabi son relativamente nuevas. *Popular Music Institute* fue el primer centro de música que se estableció en el país en 1990 y hoy en día tiene tres escuelas de música en Dubai, los niños a partir de los cuatro años pueden ingresar a la escuela. Más de 7 instrumentos y lecciones de canto se imparten en el instituto, que también tiene una educación musical orientada a la familia donde padres e hijos aprenden a tocar instrumentos. El Instituto Internacional de Música se fundó en Abu Dabi en 1994 y ofrece clases de música (piano, cuerdas, vientos y percusión) y danza (aeróbic, balé, danza moderna y danza del vientre). Enseñan desde niños de tres años en adelante. En 2007 *Brooklyn Melodies* comenzó a operar en Dubai, ofrecen clases de 10 instrumentos diferentes y también clases de ballet y danza. En 2013 se fundó *Melodica Music Center* tanto en Abu Dabi como en Dubai, tienen 9 clases de instrumentos diferentes y lecciones de canto, además de enseñar ballet, hip hop y danza del vientre. Las cuatro escuelas son representantes oficiales de *International Board Exams* y realizan exámenes prácticos y teóricos del Reino Unido una o dos veces al año. El nuevo Currículum en Abu Dabi vigente desde 2010, además de promover el bilingüismo (inglés-árabe), también incorporó obligatoriamente la música en el programa de 1º a 5º grado y en 2011 se incrementó la instrucción musical y artística.

III. Marco Teórico

La siguiente literatura muestra cómo CLIL, la teoría de las inteligencias múltiples y la fonética han sido tratadas a lo largo de los años y sus implementaciones en los EAU y cómo estas teorías apoyan este y otros estudios similares. Para comenzar, presentamos una importante literatura relacionada con la pronunciación, ya que nuestro grupo experimental recibió entrenamiento en pronunciación.

3. El Aprendizaje Integrado de Contenidos y Lenguas Extranjeras (AICLE), ¿Una solución para las grandes ciudades como Dubai y Abu Dabi en los Emiratos Árabes?

El aprendizaje integrado de contenido y lenguas extranjeras (AICLE en español o CLIL en inglés) es un término creado en 1994 por David Marsh y Anne Maljers (Johnson & Swain, 1997) como sinónimo de inmersión lingüística o instrucción basada en contenido. Es un enfoque para aprender contenidos a través de un idioma adicional (extranjero o segundo), enseñando así tanto la asignatura como propio el idioma. La idea de sus proponentes fue la de crear bloque de conceptos que englobe diferentes formas de utilizar el lenguaje como medio de instrucción.

AICLE se basa fundamentalmente en principios metodológicos establecidos por la investigación sobre "inmersión lingüística". La inmersión lingüística es un método de enseñanza de un segundo idioma en el que se utiliza el idioma de destino (o L2) como medio de instrucción. A diferencia de los cursos de idiomas más tradicionales, donde el idioma de destino es simplemente el material de la asignatura, la inmersión lingüística utiliza el idioma de destino como una herramienta de enseñanza, rodeando o "sumergiendo" a los estudiantes en el segundo idioma. Las actividades en clase, como matemáticas, ciencias, estudios sociales e historia, y las que se realizan fuera del aula, como las comidas o las tareas diarias, se llevan a cabo en el idioma de destino. Creemos que antes de esta implementación masiva de escuelas internacionales en Dubai y Abu Dabi, el Ministerio de Educación debería haber considerado inmersiones en árabe, para promover su cultura y unir a expatriados y autóctonos. Descubrimos que, con las únicas clases de árabe de dos horas por semana, los expatriados no pueden mantener una conversación en árabe con los nativos. Tanto porque estas clases se centran en la gramática (rara vez hay práctica oral) como porque aprenden árabe estándar moderno y los emiratíes hablan el árabe emiratí.

3.1. La Teoría de las Inteligencias Múltiples

La teoría elaborada por Howard Gardner por primera vez en su libro Frames of Mind en 1983 sugiere que las visiones psicométricas tradicionales de la inteligencia son demasiado limitadas. Gardner propuso que hay ocho inteligencias para captar la gama completa de habilidades y talentos que poseen las personas, incluidas las inteligencias musical, corporal, interpersonal, intrapersonal, espacial, lógico-matemática, naturalista y lingüística. Este trabajo enfoca la inteligencia musical.

Si bien una persona puede ser particularmente fuerte en un área específica, como la inteligencia musical, lo más probable es que posea una variedad de habilidades. Por ejemplo, un individuo puede ser fuerte en inteligencia verbal, musical y naturalista.

3.1.2. La Inteligencia Musical

La inteligencia musical, la inteligencia elegida por este estudio para mejorar las competencias del idioma inglés, más específicamente la pronunciación y las preposiciones, se puede abordar a través de un análisis y representación musical formal real; como una forma de captar y comprender los sentimientos que produce la música y cómo expresar lo físico. La música también se relaciona con otros tipos de inteligencias, por ejemplo, la inteligencia lógica, ya que está orientada a las matemáticas. Pitágoras, considerado el primero de los filósofos, no desligaba la música de las matemáticas y también usaba la música para controlar la ansiedad, la ira, la tristeza y conciliar el sueño (Karamanides, 2006).

Hay dos formas principales de implementar la inteligencia musical en las aulas según Campbell L., Campbell C. y Dickinson, (1999). El primero, más pragmático, es el modelo multimodal, que utiliza las inteligencias múltiples como puntos de entrada al contenido disciplinar. Este es el enfoque de nuestro estudio, no porque creamos que este sea el mejor y más importante aspecto de la inteligencia musical, sino porque no somos legisladores, por lo tanto, no podemos implementar clases de música en las escuelas, lo que nos lleva al segundo modelo de escuelas, el basado en las artes, en el que las inteligencias múltiples se tratan como un fundamento sólido para el aprendizaje en y a través de las artes consideradas como disciplinas por derecho propio.

Los psicólogos han intentado examinar el mecanismo por el cual se perciben los patrones musicales. La escuela más predominante ha adoptado lo que podría llamarse un enfoque 'de abajo hacia arriba', examinando las formas en que los individuos procesan los componentes básicos de la música: tonos únicos, patrones rítmicos elementales y otras unidades que permitan una presentación rápida a sujetos experimentales y son desprovistos de la información contextual que se encuentra en las interpretaciones de obras musicales. (Gardner, 1983: 107). En un enfoque "de arriba hacia abajo" de la percepción musical, se presentan a los sujetos piezas musicales o, al menos, segmentos musicales considerables. En tales estudios, normalmente se examinan las reacciones a propiedades más globales de la música (¿se vuelve más rápida o lenta, más fuerte o suave?) Y luego las caracterizaciones metafóricas de la música (¿es esto pesado o ligero, abarrotado o escaso?). El objetivo aquí es muestrear entidades musicales que sean lo suficientemente grandes como para tener un parecido no superficial con entidades musicales genuinas, pero lo suficientemente susceptibles al análisis para permitir manipulaciones experimentales sistemáticas. La investigación en esta línea ha utilizado piezas breves o fragmentos incompletos de piezas que tienen una clave o un ritmo claros. Se pide a los sujetos que comparen las terminaciones entre sí, que agrupen piezas en la misma tonalidad o patrones de ritmo, o que creen sus propias terminaciones. Las personas parecen tener 'esquemas' o 'marcos' para escuchar música, expectativas sobre lo que debería ser una frase o secciones bien estructuradas de una pieza, así como al menos una capacidad incipiente para completar un segmento de una manera que tenga sentido musical.

Recientemente se ha descubierto mucho sobre el desarrollo del canto en las aves. Algunas especies están restringidas a una sola canción que todos los pájaros aprenden, incluso los que son sordos; otras especies presentan una variedad de canciones y dialectos, que dependen claramente de la estimulación ambiental de tipos especificables, hay un camino prescrito para el desarrollo del canto final, comenzando con el subcanto, pasando porcanto plástico, hasta lograr finalmente el canto o cantos de la especie. Sin embargo, la producción final de los cantantes humanos es mucho más vasta y variada que incluso el repertorio de aves más impresionante; y esta discontinuidad entre las dos especies vocalizadoras debe tenerse en cuenta. Los cantos de los pájaros se lateralizan en la parte izquierda del sistema nervioso aviar. Una lesión allí destruirá el canto de los pájaros, mientras

que lesiones comparables en la mitad derecha del cerebro ejercen efectos mucho menos debilitantes. Además, es posible examinar el cerebro del pájaro y encontrar índices claros de la naturaleza y la riqueza de los cantos. La cantidad de canciones cambia a lo largo de las estaciones y esta alteración se puede observar inspeccionando la expansión o la contracción de los núcleos relevantes durante las diferentes estaciones. El mecanismo por el cual se organizan ciertos componentes musicales centrales bien puede resultar análogo a los que exhiben los seres humanos.

Los investigadores que trabajan con humanos tanto normales como con daño cerebral han demostrado más allá de toda duda que los procesos y mecanismos que sirven a la música y el lenguaje humanos son distintos entre sí. Diana Deutsch (Gardner, 1983) resume esta disociación, cuyo trabajo se enmarca en gran medida en la tradición "de abajo hacia arriba". Deutsch ha demostrado que los mecanismos mediante los cuales se capta y almacena el tono son diferentes de los mecanismos que procesan otros sonidos, en particular los del lenguaje. A los individuos se les da un conjunto de tonos para recordar y luego se les presenta varios materiales que interfieren. Si el material que interfiere son otros tonos, se interfiere drásticamente con la recuperación del conjunto inicial (error del cuarenta por ciento en un estudio). Sin embargo, si el material interpuesto es verbal, listas de números, por ejemplo, los individuos pueden manejar incluso grandes cantidades de interferencia sin un efecto material en la memoria del tono (error del dos por ciento en el mismo estudio).

La especialidad de la percepción musical se confirma dramáticamente mediante estudios de individuos cuyos cerebros han sido dañados como resultado de un derrame cerebral u otro tipo de trauma. Hay casos en los que los individuos afásicos también han mostrado una capacidad musical disminuida, mientras que otros pueden sufrir una afasia significativa sin ningún impedimento musical discernible, incluso cuando uno puede quedar discapacitado musicalmente sin dejar de conservar las competencias lingüísticas fundamentales. Esto se debe al hecho de que las habilidades lingüísticas están lateralizadas casi exclusivamente al hemisferio izquierdo en individuos diestros normales, mientras que la mayoría de las capacidades musicales, incluida la capacidad central de sensibilidad al tono, se localizan en la mayoría de los individuos normales en el hemisferio derecho. La apreciación de la música también parece verse comprometida por la enfermedad del hemisferio derecho.

La amusia, por ejemplo, es el trastorno caracterizado por la incapacidad para reconocer o reproducir sonidos musicales.

Se puede encontrar una gran variedad de síndromes musicales incluso dentro de la misma población. La ruptura musical sugiere que no hay una conexión sistemática con otras facultades, como el procesamiento lingüístico, numérico o espacial; la música parece, en este sentido, sui generis como el lenguaje natural. Quizás una vez que se hayan refinado las herramientas analíticas adecuadas para estudiar las diversas formas de competencia musical, podamos encontrar que está aún más lateralizado y localizado que el lenguaje humano.

La literatura está llena de relatos de magníficas hazañas musicales y acústicas realizadas por jóvenes autistas. Una de esas niñas, llamada Harriet, pudo tocar "Happy Birthday" al estilo de varios compositores, incluidos Mozart, Beethoven, Verdi y Schubert. Harriet ejerció sus pasiones musicales de otras formas, por ejemplo, conociendo la historia personal de cada miembro de la Orquesta Sinfónica de Boston. A la edad de tres años, su madre la llamó tocando melodías incompletas, que luego la niña completaría con el tono apropiado en la octava adecuada.

Numerosos compositores han destacado los estrechos vínculos que existen entre la música y el lenguaje corporal o gestual. Stravinski ha insistido en que la música debe ser asimilada adecuadamente: por lo tanto, era partidario del balé como modo de interpretación y siempre insistió en que se observara a los instrumentistas cuando interpretaban una pieza. Por lo tanto, nuestro estudio no solo utilizará habilidades musicales para capacitar a los participantes en fonética y gramática inglesa, sino que también haremos uso de inteligencia corporal-cinestésica, es decir, los participantes estarán cantando y haciendo gestos para ayudarlos a asimilar el contenido durante la capacitación. La localización de las capacidades musicales en el hemisferio derecho ha sugerido que ciertas habilidades musicales pueden estar estrechamente ligadas a las capacidades espaciales (Gardner, 1983: 123).

La investigación a posteriori sugiere que todos los compromisos musicales, ya sea a nivel de principiante o profesional, desde niños pequeños hasta adultos, activan ambos hemisferios cerebrales e involucran la actividad de la corteza cerebral y el mecanismo de recuperación de la memoria (Reimer, 2004).

3.1.2.1. Música y sentimientos

Los individuos con daño en las áreas subcorticales, o con desconexión entre las áreas corticales y subcorticales, a menudo se describen como desprovistos de afecto; estos individuos rara vez parecen tener interés o atracción por la música. De manera bastante instructiva, un individuo con daño extenso en el hemisferio derecho siguió siendo capaz de enseñar música e incluso de escribir libros sobre ella, pero perdió la capacidad y el deseo de componer. Según su propia introspección, ya no podía retener la sensación de toda la pieza. Otro músico con enfermedad del hemisferio derecho perdió todos los sentimientos estéticos asociados con sus actuaciones. Quizás estos aspectos sensibles de la música resulten especialmente frágiles en el caso de daño a las estructuras del hemisferio derecho, ya sean corticales o subcorticales. (Gardner, 1983)

3.1.2.2. Música y matemáticas

Los vínculos entre la música y las matemáticas, que se remontan a los descubrimientos clásicos de Pitágoras, han atraído la imaginación de individuos reflexivos. En la época medieval, el estudio cuidadoso de la música compartía muchas características con la práctica de las matemáticas, como el interés por las proporciones, las proporciones especiales, los patrones recurrentes y otras series detectables. En el siglo XX la música y las matemáticas han sido ampliamente consideradas debido, en primer lugar, a la música de doce tonos y, más recientemente, a la generalización de las computadoras. Para poder apreciar el funcionamiento de los ritmos en el trabajo musical, una persona debe tener alguna competencia numérica básica. Las interpretaciones requieren una sensibilidad a laregularidad y proporciones que a veces pueden ser bastante complejas.

La sensibilidad a los patrones matemáticos y regularidades ha caracterizado a muchos compositores, desde Bach a Schumann, que han dado rienda suelta a este interés, a veces abiertamente, a veces a través de una especie de exploración lúdica de posibilidades (Mozart incluso compuso música según el juego de dados).

3.2. La evolución de los métodos de pronunciación

El *método directo* es uno de los primeros métodos de instrucción de idiomas para lidiar con el aprendizaje de sonidos y afirma que el significado debe enseñarse directamente en el

segundo idioma (a partir de ahora L2) mediante demostraciones y ayudas visuales. Por lo tanto, hablar es la primera habilidad que se enseña y solo luego leer o escribir. La escritura y la lectura deben mantenerse alejadas del alumno durante el mayor tiempo posible. El vocabulario concreto se enseña a través de objetos e imágenes, mientras que los conceptos abstractos se enseñan por asociación de ideas.

La siguiente corriente de pronunciación fue *el movimiento reformista* por Henry Sweet, Wilhelm Viëtor y Paul Passy, que lideraron un movimiento en la enseñanza de idiomas que se conoció como el Movimiento Reformista en la década de 1890. Estos fonetistas no solo cooperaron hacia un objetivo educativo compartido, pero también lograron atraer a maestros y otras personas en el campo con el mismo propósito común. El movimiento de unanotable muestra de cooperación internacional e interdisciplinaria en la que los especialistas en fonética se interesaron tanto por el aula como los profesores por la nueva ciencia de la fonética. Estos fonetistas influyeron en la enseñanza de la pronunciación con su contribución a la implementación de un sistema para describir y analizar los sistemas de sonido de las lenguas. Abogaron por las siguientes pautas (Celce-Murcia et al. 1996, p.3):

(1) Hablar es primordial y debe enseñarse primero

(2) Los resultados de la investigación fonética deben aplicarse en el aula.

(3) El instructor debe tener una formación bien fundada en fonética.

(4) Los alumnos deben recibir formación fonética para que adquieran buenos hábitos de pronunciación.

Estas pautas establecidas hace dos siglos siguen vigentes en la actualidad. El caso de estudio en este trabajo se basa en ellos, además de un concepto posterior del fonema como un sonido mínimamente distintivo (Bloomfield, 1933).

La forma más sencilla de representar el alcance del movimiento de reforma puede ser esbozar una perspectiva más amplia de sus logros entre 1882, cuando atrajo la atención por primera vez, y 1904, cuando Jespersen resumió sus implicaciones para el maestro de aula en Cómo enseñar una lengua extranjera (Howatt 2004 p. 188).

La contribución de este último enfoque lingüístico analítico a la pedagogía de la pronunciación condujo a un movimiento muy popular en las décadas de 1940 y 1950. El audiolingüismo de los Estados Unidos y en Gran Bretaña el enfoque oral. Estas dos metodologías se construyeron sobre la instrucción explícita de los aspectos fonológicos del lenguaje (Carey, 2002). Estos dos métodos emulaban el método directo confiando en una grabación o en el maestro para modelar el idioma de destino seguido de la repetición de ese idioma por parte de los estudiantes.

La fonética se quedó en segundo plano en el método audiovisual, que apareció en Francia a principios de los años sesenta (Howatt, 2004). El uso de tiras de película fue un recurso imaginativo para contextualizar los enunciados y darles mucho significado. También utilizaron periódicos para las actividades de lectura. Este método rechaza el vacío de las estructuras formales del lenguaje y aplica una solución significativa y contextualizada. Hace que la lengua extranjera recupere su carácter social y situacional. El resultado es que la comunicación es el objetivo.

A principios de la década de 1970, la pronunciación recuperó la fama con el desarrollo del Camino Silencioso (Silent Way) (Gattegno 1972) .Gattegno enseñaba árabe, hindi, inglés o español con "el Camino Silencioso" sin pronunciar una sola palabra. Ya sea que enseñara idiomas, álgebra o alfabetización de adultos, las clases de Gattegno tuvieron un éxito tan espectacular que con frecuencia se lo llamaban "El mejor maestro del mundo". En esta metodología (que todavía está en práctica en los EE. UU.) tanto las características segmentales como los suprasegmentales se destacan desde el principio de la instrucción. Como sugiere el nombre, el lenguaje del maestro en este método se mantiene al mínimo. Apoyándose en las capacidades mentales de los estudiantes, su experiencia y habilidades adquiridas, el profesor se esfuerza por asegurarse de que hagan sus propios descubrimientos, obtengan sus propias percepciones sobre el funcionamiento del idioma, establezcan sus propios criterios de corrección, adquieran un conocimiento y, sobre todo, volverse autónomos como aprendices y hablantes de la lengua. En lugar de complicadas explicaciones articulatorias y fonéticas, el profesor indica mediante gestos lo que deben hacer los alumnos. Los maestros levantan los dedos para indicar el número de sílabas de una palabra, marcan patrones rítmicos y modelan el lugar y la forma de articulación con sus propios labios y garganta o con una marioneta de la lengua y la cavidad bucal. También son fundamentales

para el *Silent Way* las ayudas visuales para la enseñanza que se han encontrado útiles para demostrar algunos de los principios más abstractos de la pronunciación a los estudiantes de una segunda lengua:

• La tabla de colores de sonido. A cada fonema de una carta fonémica se le asigna un color y se le asigna un color para facilitar la referencia.

• Gráficos murales de Fidel. Un sistema de categorización de colores que segmenta la letra según las reglas del sonido en paquetes fonéticos. Para cada letra o grupo de letras, que representan un fonema en inglés, se designa un color.

• Varillas de Cuisenaire. También se utilizan para enseñar a los niños aritmética básica, estas piezas de madera de colores de diferentes longitudes tienen varios usos en el aula de pronunciación. Las varillas se pueden utilizar para construir y demostrar visualmente patrones de entonación, duración de vocales y acentuación léxica.

El enfoque comunicativo, que persiste en la actualidad cobró prominencia en la década de 1980 (Carey, 2002). Se podría decir que el enfoque comunicativo es producto de educadores y lingüistas que se habían vuelto insatisfechos con los métodos audiolinguales y de traducción gramatical de la enseñanza de lenguas extranjeras. Sentían que los estudiantes no estaban aprendiendo un lenguaje completo y realista. No sabían cómo comunicarse usando lenguaje social, gestos o expresiones apropiados; en resumen, no podían comunicarse en la cultura del idioma estudiado. El enfoque comunicativo sostiene que la comunicación oral es el uso principal del lenguaje y, por lo tanto, debe ser fundamental para el modo de instrucción. Aunque la pronunciación no es una característica explícita en este modo de instrucción, se ha destacado la importancia de la pronunciación. Al centrarse más en la comunicación activa en el aula, se ha reconocido que la pronunciación por debajo de un cierto umbral vuelve ininteligible incluso al estudiante más avanzado gramatical y léxicamente (Hinofotis y Bailey 1980).

3.2.1. Psicolingüística, Análisis Contrastivo y Modelo de Aprendizaje del Habla

Un área relevante en el estudio de la pronunciación es la psicolingüística, rama de la lingüística que estudia los procesos mentales involucrados en la adquisición y uso del lenguaje (Ellis, 1997). Podría decirse que el área de la psicolingüística más extensamente estudiada es

la transferencia de la primera lengua (de ahora en adelante denominada L1). Las transferencias relativas a los alumnos de la segunda lengua (en adelante, L2) son la transferencia cero, que describe el caso en el que una estructura o sonidos que se encuentran en la L2 no son una característica de la L1; la transferencia negativa que ocurre cuando una característica L1 se encuentra en la L2 pero no en el mismo entorno o distribución y la transferencia positiva, que describe el caso en el que L1 y L2 comparten una característica tanto en términos de su estructura o características como de su distribución (Nunan, 2000).

Esta transferencia no solo ocurre en el nivel fonológico, sino también en la gramática de una lengua. En una investigación sobre el efecto del dominio del árabe emiratí L1 en el inglés L2 de estudiantes emiratíes de 14 años, Abud Ghwaileh (2014) se centró en los errores que se produjeron debido a la transferencia negativa del árabe coloquial al escribir en inglés. Algunos de estos errores fueron relacionados con las preposiciones, que será uno de los aspectos analizados más adelante en este estudio. En este estudio se proporcionaron anteriormente ejemplos de errores de los estudiantes árabes (ver, 2.2.8.).

La hipótesis del análisis contrastivo (AC) es un modelo temprano para abordar los efectos de transferencia. AC sostiene que las dificultades en la pronunciación de L2 radican en las diferencias entre L1 y L2. Se pensó que los elementos de L2 familiares para el alumno de L1 serían fáciles de aprender mientras que los elementos diferentes de L1 serían difíciles. El AC cayó en desuso, en parte porque no fue difícil encontrar casos en los que los alumnos no tuvieran dificultades con fonemas nuevos y diferentes en la L2. El AC creó el *modelo de aprendizaje del habla* de Flege (1995), que afirma que los diferentes sonidos serían más fáciles de aprender porque el alumno se vería obligado a crear nuevas categorías para ellos. El modelo de aprendizaje del habla no concuerda con este estudio, debido a que los participantes en este estudio asimilaron la mayoría de los sonidos de L2 a su L1; por ejemplo, muchos sonidos / p /, como en Patrick, fueron asimilados a la letra árabe B, como en "baba" (papá) cuyo sonido es idéntico al / b / en inglés, como en ball; lo mismo sucedió con el sonido / æ /, que estaba asociado al fonema árabe / a /.

IV. Métodos

Este estudio se centra en dos aspectos principales. Por un lado, queríamos investigar a estudiantes y egresados para saber cómo las escuelas secundarias de Dubai y Abu Dabi desarrollan su trabajo y si hacen uso de la teoría de las IM en el aula. Obtuvimos dicha información mediante la creación y administración de dos cuestionarios diferentes, uno para estudiantes de secundaria y otro para egresados. [ver apéndice A y B, respectivamente]. Por otro lado, se investigó si hay diferencias en las actuaciones entre los músicos o amantes de la música frente a los participantes habituales (estudiantes y exalumnos) cuando entrenados en el área de gramática y fonética del inglés. Para demostrar que aprender a través de los puntos fuertes de un individuo, en el caso de este estudio, la inteligencia musical, es más eficiente que aprender de la manera convencional, los estudiantes y exalumnos versus participantes con inclinaciones musicales serán entrenados en dos grupos separados. Estas inclinaciones se obtuvieron de un cuestionario administrado antes de la formación de los grupos (ver Apéndice C). Para ser seleccionados para el grupo experimental (participantes con inclinaciones hacia la música), los concursantes debían responder positivamente al menos cinco de las siete preguntas sobre hábitos o instrumentos musicales.

Los datos de esta parte se obtuvieron de seis sesiones de entrenamiento diferentes, cada sesión tiene una duración de 10 minutos. Hubo una prueba previa minutos antes de la primera sesión (ver apéndice D, E y F); La posprueba 1 se administró después de la tercera sesión y la posprueba 2 se administró después de la sexta sesión. Las pospruebas fueron idénticas a las prepruebas (ver apéndice D, E y F).

4.1. Participantes

Parte 1 (estudiantes y exalumnos para evaluar los bachilleratos en Dubai y Abu Dabi)

- Se eligieron al azar 100 estudiantes de secundaria para completar cuestionarios diseñados específicamente para este estudio. Todos ellos pertenecen a escuelas secundarias en Dubai y Abu Dabi.

- Se eligieron al azar 100 exalumnos para completar cuestionarios diseñados específicamente para este estudio. Todos ellos con edades comprendidas entre los 38 y los 50 años de Dubai y Abu Dabi.

- 30 participantes adicionales de 28 a 37 años, todos residentes en Dubai o Abu Dabi y en conjunto con 20 estudiantes del grupo mencionado anteriormente de 38 a 50 años formaron un nuevo grupo.

Parte 2- participantes para el experimento de entrenamiento en fonética y preposiciones en inglés

20 participantes, 10 hombres y 10 mujeres, fueron elegidos al azar para ser el grupo de control.

20 participantes (11 hombres y 9 mujeres) que respondieron en el cuestionario (Apéndice C) que tienen inclinaciones musicales (es decir, escuchan música al menos cinco veces por semana, disfrutan cantar junto con la música, la música es importante en sus vidas, etc.) fueron elegidos para ser el grupo experimental. Preferiblemente hubiéramos elegido músicos como violista, pianistas, violinistas; sin embargo, no pudimos encontrar ninguno para formar parte del grupo experimental. El rango de edad de los participantes de ambos grupos es de 29 a 38 años.

4.2. Materiales

Para evaluar los bachilleratos de la ciudad de Dubai y Abu Dabi, siguiendo la clasificación establecida por Sierra Bravo (1996) en relación con el trabajo empírico, esta investigación se enmarca, por un lado, dentro de lo que él denomina "empírico de tipo directo". Estudia la realidad a través de una encuesta y por su estilo descriptivo, ya que uno de los focos de esta investigación es determinar el estado del aprendizaje del inglés en los bachilleratos de Dubai y Abu Dabi. El instrumento utilizado para la recogida de datos fue el cuestionario, junto con la entrevista y la escala de actitudes (medida cuantitativa), que conforman los tres posibles tipos de observación mediante encuesta (Bisquerra Alzina, 2004). La encuesta, una de las técnicas de investigación social más utilizada, se basa en declaraciones orales o escritas de una muestra de la población con el fin de recopilar información (de Vaus, 1996). El objetivo del cuestionario es obtener de forma sistemática y ordenada información de la población de investigación (estudiantes de secundaria y egresados de 38 a 50 años) sobre las variables investigadas (ver anexo A y B). Siempre que el tiempo lo permitía y los estudiantes estaban dispuestos a participar, las entrevistas se grababan en un teléfono celular

(Samsung S10), se les pedía a los participantes que hablaran libremente sobre la influencia del inglés en el árabe emiratí, si usaban un registro más diferente según fueran. hablando con otros emiratíes o dependiendo de la edad del interlocutor. Hubo una segunda parte del cuestionario para el grupo de antiguos alumnos en forma de entrevista que trata sobre el desarrollo del sistema educativo en los EAU (ver apéndice B. parte 2).

En la segunda parte de nuestro estudio, se administró un breve cuestionario con el fin de seleccionar a 40 participantes para el grupo experimental y de control (ver Apéndice C).

Para evaluar el experimento, se administró una prueba previa estándar en ambos grupos (ver Apéndice D, E y F), los participantes aquí tenían entre 28 y 38 años. La elección de la edad de los participantes se hizo para demostrar que, aunque los estudiantes son mayores de 13 años, aún pueden mejorar su pronunciación y tener una pronunciación similar a la de los nativos, a diferencia de la Hipótesis del período crítico (ver 3.8.9.) como se demostró en nuestro trabajo anterior (Daquila, 2014).

V. Resultados y discusión

5.1. Los cuestionarios para estudiantes de secundaria y exalumnos

100 exalumnos (de 38 a 50 años), de Dubai y Abu Dabi respondieron un cuestionario de veintiocho preguntas cuyo objetivo era conocer cómo se realizaban las evaluaciones de inteligencias múltiples, tareas, clases de inglés y árabe, con/en las escuelas de los Emiratos. 92 alumnos asistieron a escuelas públicas; de los cuales 53 eran mujeres y 47 eran hombres.

100 estudiantes (de 18 a 20 años) de los bachilleratos de Dubai y Abu Dabi, en adelante denominados alumnos de secundaria, respondieron un cuestionario de veintidós preguntas cuyo objetivo era averiguar cómo las inteligencias múltiples, las evaluaciones, las tareas, el inglés y las clases de árabe se tratan en estas instituciones. 78 estudiantes asistieron a escuelas privadas, estas escuelas eran británicas, americanas o coránicas. 22 participantes afiliados a escuelas públicas, de los cuales 43 eran mujeres y 57 eran estudiantes varones.

5.2. Evaluación comparativa del sistema de educación secundaria por parte de exalumnos y estudiantes de secundaria

Las siguientes 4 figuras presentan los hallazgos clave del estudio del cuestionario para estudiantes de secundaria y exalumnos (ver Apéndice A y B).

A. Instrucciones en inglés y clases centradas en libros (preguntas 1 a 3)

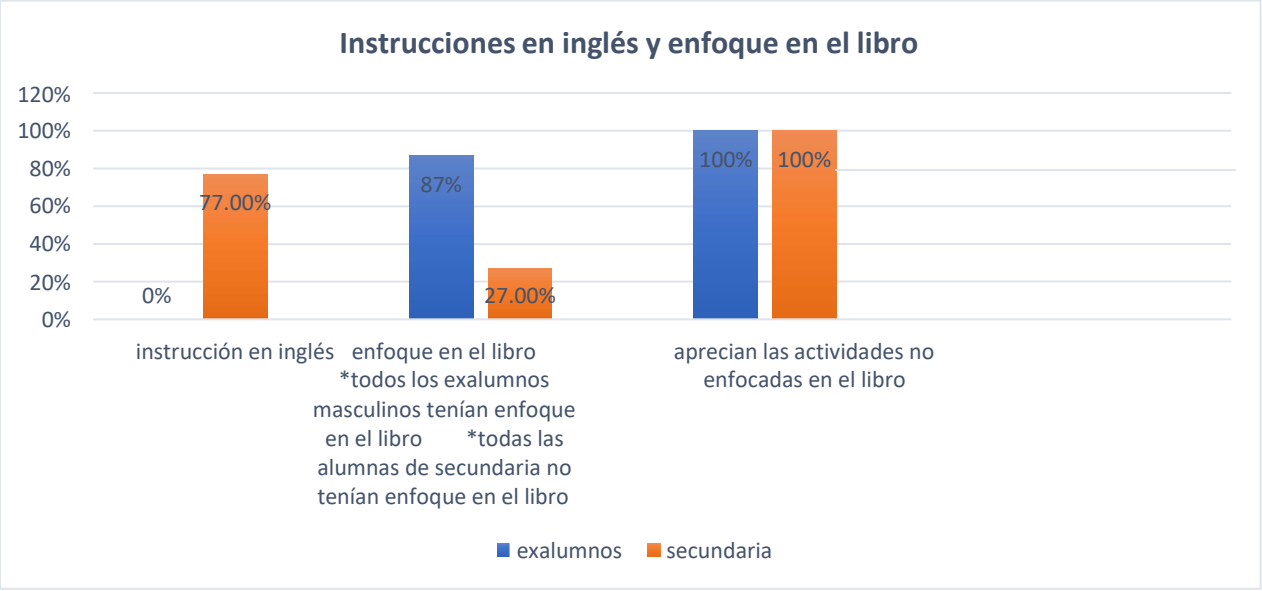


Figura 5.1

Como lo demuestra el gráfico 5.1, hace veinte años ninguna escuela tenía asignaturas en inglés. Debemos tener en cuenta que la idea de AICLE (CLIL), se originó a partir de la instrucción basada en contenido en 1989 y es relativamente nueva. Por lo tanto, las clases en los bachilleratos emiratíes se impartían exclusivamente en árabe. Hubo un cambio de la enseñanza del árabe al inglés en los bachilleratos de Dubai y Abu Dabi, ya que solo el 23% de los estudiantes en el grupo de la secundaria todavía tienen todas las materias en árabe. A los estudiantes emiratíes de las escuelas británicas y estadounidenses se les enseñan todas las materias escolares en inglés, por ejemplo, química, geografía, matemáticas, historia y educación física; a excepción de Lengua y Cultura Árabe, estas clases son en árabe y varían de 5 (escuela británica) a un máximo de 6 horas por semana.

Con respecto a la segunda pregunta, todos los participantes masculinos del grupo de exalumnos respondieron que las clases se centraban exclusivamente en el libro. Sin embargo, en lo que respecta a las alumnas, descubrimos que 13 mujeres (24,5% de las exalumnas) tenían canciones en sus aulas, y una mencionó actuar en una obra de teatro que hicieron las propias alumnas. En el grupo de bachillerato, sin embargo, encontramos un aumento en las actividades creativas: 30 adolescentes (52,6% de todos los participantes masculinos de la escuela secundaria) tenían algún tipo de tareas no centradas en libros: 12 chicos tenían canciones en sus aulas para aprender inglés; 24 vieron videos relacionados con los temas que estaban estudiando; 11 adolescentes también mencionaron juegos tanto por diversión como para aprender contenido. En cuanto a las alumnas, el 100% de ellas tuvo algún tiempo de actividades no centradas en libros: 15 tenían canciones, 13 tenían juegos y 29 vieron videos en el aula relacionados con el contenido que estaban estudiando.

Respecto a la pregunta número tres “Si tu profesor trató de ayudarte con el uso de danza, canciones, teatro, juegos, escritos creativos y talleres, ¿te gustó?”, Todos los participantes dijeron disfrutar aprendiendo a través de estos medios, ya que son más divertido, pudieron interactuar con los compañeros de clase y pudieron hacer algo que no estaba en los libros.

B. Pasatiempos de los participantes y su uso en el aula para estimular el aprendizaje (preguntas 4 y 5)

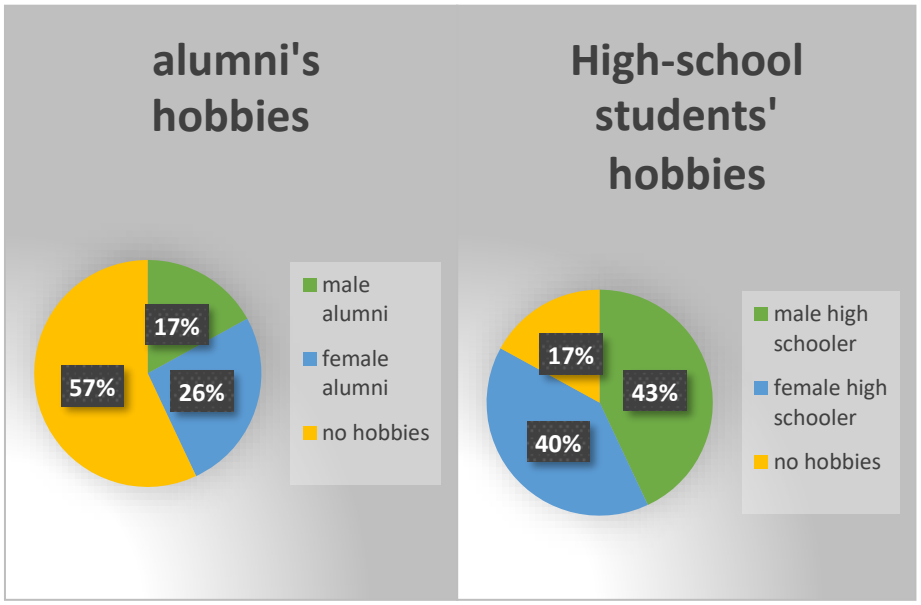


Figura. 5.2.

Figura 5.2. describe la pregunta cuatro, que preguntaba si los estudiantes tenían pasatiempos, practicaban algún deporte, tocaban algún instrumento o estaban interesados en la danza. Descubrimos que las mujeres en el grupo de exalumnos son más activas que los hombres: 26 mujeres (49% de ellas) van al gimnasio, tienen clases de danza del vientre o mientras que solo 17 hombres (36% de los exalumnos masculinos) tocan la guitarra, van al gimnasio, juegan al fútbol y dos de ellos tocan piano (cuando se les preguntó qué tan competentes eran, los dos concursantes dijeron que podían tocar canciones simples como "feliz cumpleaños"). Los estudiantes de secundaria están más comprometidos con los deportes y pasatiempos y, además, estas actividades son más variadas que en el grupo de exalumnos. Ahora tenemos 40 chicas que tocan la guitarra, van al gimnasio, tienen clases de danza del vientre, van a esquiar (en el *Mall of the Emirates*, Dubái), tienen lecciones de piano. Mientras que a 43 niños les gusta montar a caballo, jugar al fútbol, tocar la guitarra y las carreras de autos en el desierto.

C. Empleo del pasatiempo de los estudiantes para estimular la clase y los puntos de vista de los estudiantes hacia esta práctica (preguntas 5 y 6)

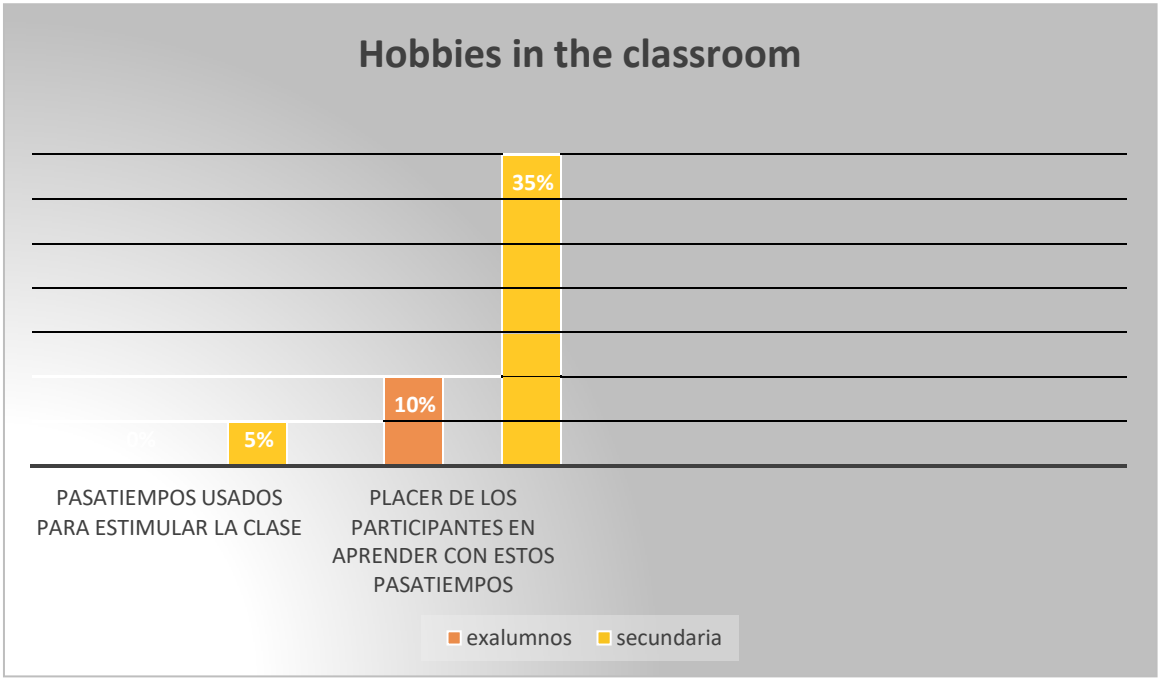


Figura 5.3.

Como se muestra en el gráfico de la Figura 5.3., el 100% de los egresados no tenían sus pasatiempos utilizados en el aula como estímulo para los diferentes tipos de inteligencias que propone la teoría de las IM, mientras que en el grupo de secundaria sólo dos estudiantes varones y tres mujeres dijeron que tenían sus pasatiempos presentes en el aula, que eran alusiones a las canciones utilizadas en el aula por los profesores. Descubrimos que al 90% de los egresados no les gustaría aprender a través de sus pasatiempos e incluso hicieron alguna observación: la escuela es un lugar para aprender, no para jugar; sería una distracción aprender a través de un pasatiempo; no es una buena idea. En el grupo de la escuela secundaria hubo un poco más de aceptación a las actividades usando las IM y el 35% de los concursantes dijeron que les gustaría pasar por la experiencia de aprender contenido a través de sus pasatiempos.

En cuanto al sistema de evaluación, todos los estudiantes de secundaria de escuelas privadas fueron evaluados diariamente, proyectos y presentaciones formaban parte de la evaluación; muchos entrevistados también mencionaron que el comportamiento tuvo un papel importante en su calificación final. Sin embargo, entre los estudiantes de secundaria de las escuelas públicas, sólo el comportamiento y la presencia en clase influyeron en su

calificación en los exámenes. Un dato muy curioso es que todos los entrevistados de ambos grupos quedaron satisfechos con el sistema de evaluación, independientemente de su edad o sexo.

D. Clases exclusivamente en el aula o en museos y al aire libre?

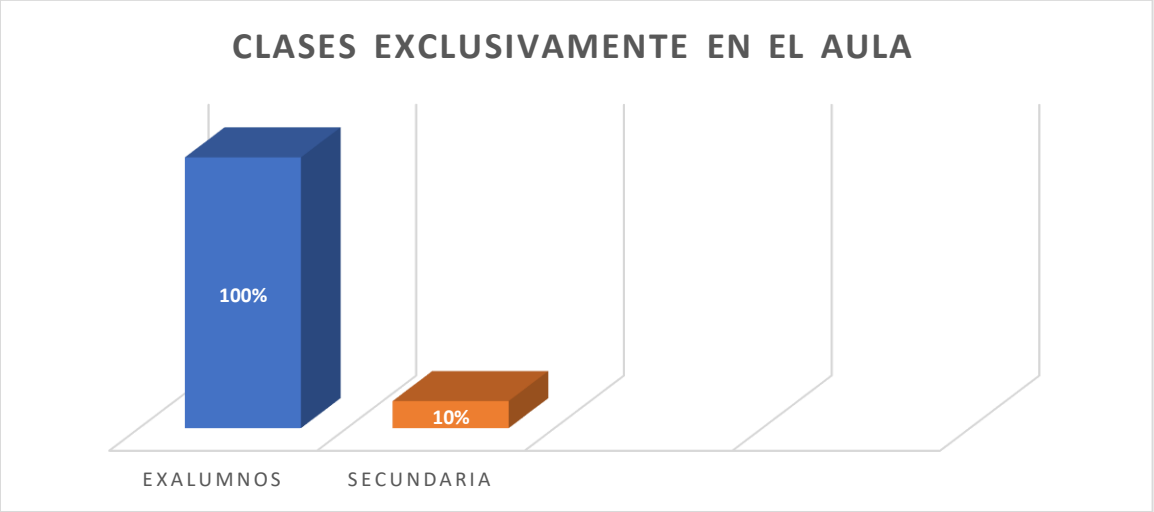


Figura 5.4.

Con respecto a la ubicación de las clases, como se muestra en la Figura 5.4., Todos los egresados informaron tener clases exclusivamente en el aula y el 98% de ellos habría disfrutado de las clases fuera del aula. Por otro lado, más del 90% de los estudiantes de secundaria informaron tener clases fuera del aula, en lugares como museos, laboratorios de química, teatro. Disfrutan de estas actividades ya que interactúan más con otros estudiantes y profesores y / o no están estancados en la rutina.

E. Los deberes afectan las notas finales

Figura 5.5.

Como observamos en el gráfico de la figura 5.5., los deberes también han cambiado en los últimos veinte años en los Emiratos Árabes Unidos, ya que todos los alumnos respondieron que sus deberes siempre eran aburridos y se hacía individualmente en comparación con los estudiantes de secundaria que dijeron que la tarea asignada a veces era aburrida; algunas veces, sin embargo, se describieron como interesantes, cuando tenían que trabajar en proyectos, por ejemplo, y no siempre se hacía de forma individual. Las fuentes utilizadas para hacer los deberes también han cambiado, se pasó de utilizar solo libros en el caso de los egresados a la incorporación de Internet y entrevistas. Ambos grupos informaron que los maestros revisaron sus tareas. Todos los egresados dijeron que no hacer la tarea afectaría sus calificaciones, ya que era parte de su buen comportamiento, mientras que más del 80% de los estudiantes de secundaria dijeron que no afecta sus calificaciones en absoluto.

F. Dominio del árabe entre los Expatriados

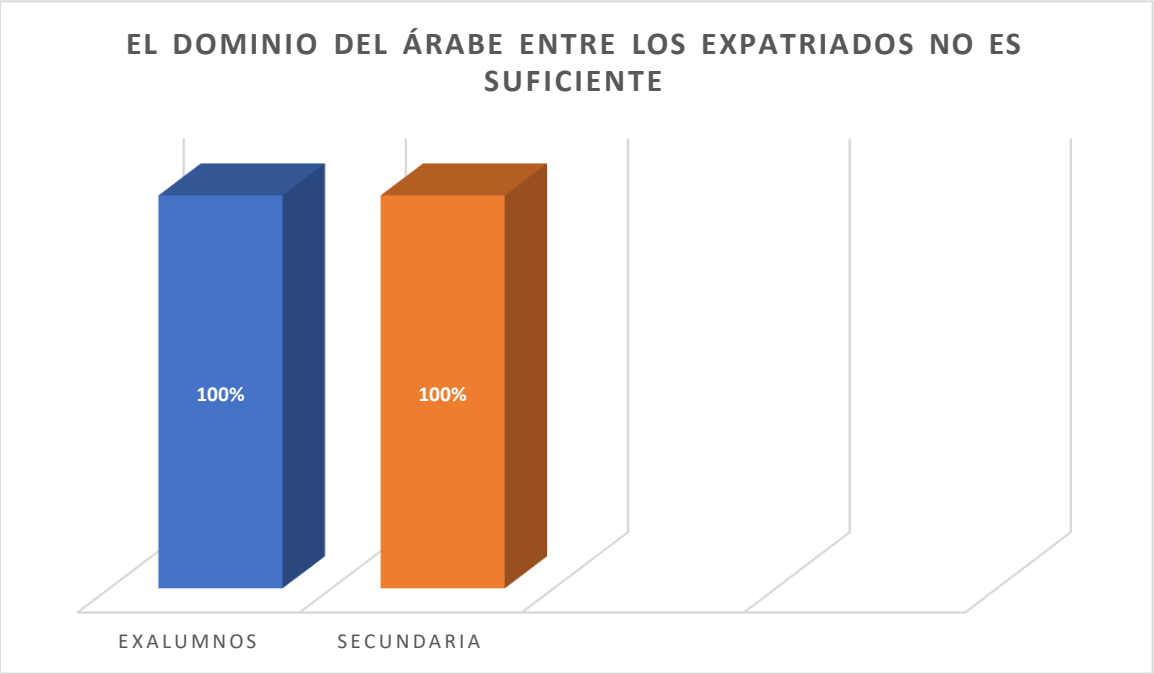


Figura 5.6.

Con referencia al dominio del árabe de los estudiantes no árabes que se muestra en la Figura 5.6., todos los estudiantes de secundaria informan que su nivel no es suficiente para mantener una conversación en árabe, por lo tanto, siempre se comunican con los estudiantes expatriados en inglés, mientras que más del 85% de los egresados no tenían expatriados en sus aulas, es decir, la comunicación era íntegramente en árabe. Sin embargo, un cuarto de los exalumnos, que tenían compañeros expatriados, coincidió en que no tenían el nivel para

mantener una conversación en árabe. Tanto los alumnos como los estudiantes de secundaria estuvieron de acuerdo en que los expatriados deberían tener más horas de árabe en la escuela.

En cuanto a los profesores de inglés, todos los exalumnos informan tener profesores árabes de inglés, en su mayoría de Egipto, pero también de Palestina y Jordania; mientras que los estudiantes de secundaria tenían un 56% de profesores de inglés no nativos de los países antes mencionados y así como profesores de los Emiratos y un 44% de hablantes nativos de inglés. Aparte de las lecciones de inglés, algunos estudiantes de secundaria también tenían algunas o todas las materias en inglés, excepto el idioma árabe.

G. Corrección de la pronunciación en el aula

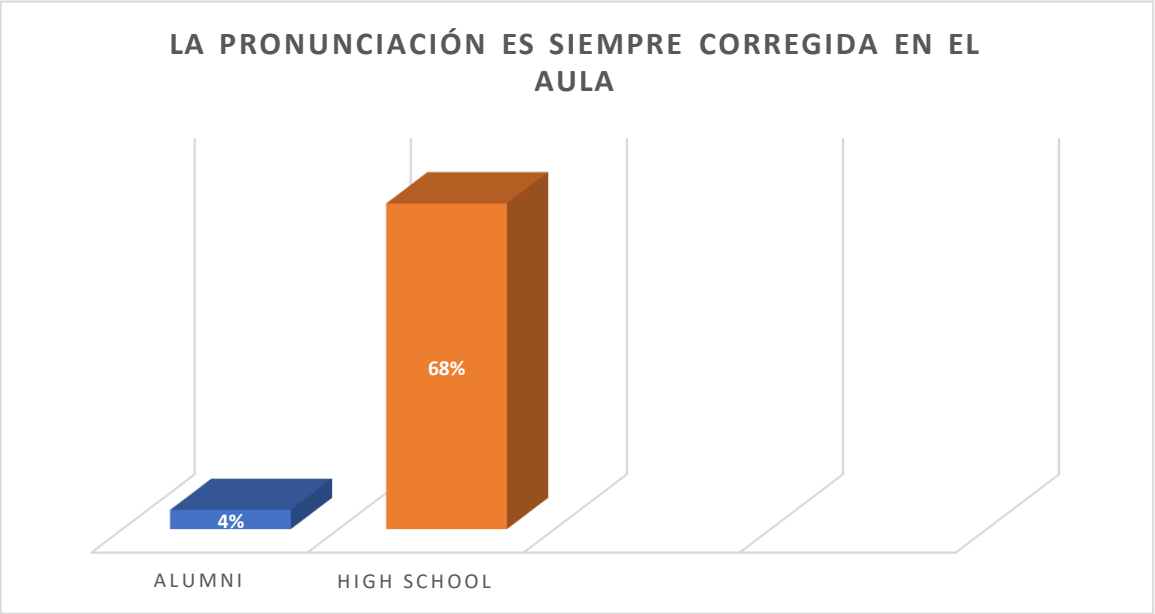


Figura 5.7. Corrección de la pronunciación en el aula

La Figura 5.7. nos indica cómo se trataba la pronunciación en el aula. Aunque el 4% de los egresados, todos ellas mujeres, dijeron que su pronunciación siempre fue corregida, confiesan que sus profesores de inglés tenían un "fuerte acento árabe" y que hoy en día incluso se dan cuenta de que algunas palabras fueron mal pronunciadas por los profesores. El restante de los alumnos dijo que el enfoque estaba en aprender gramática y vocabulario, no en la pronunciación. No olvidemos que todos estos maestros de inglés eran árabes.

En cuanto a los estudiantes de secundaria, al 68% de ellos siempre se les corrigió la pronunciación, al 17% en ocasiones se les corrigió y solo al 15% nunca se les corrigió. Lo que

también es interesante es que los profesores no solo corrigieron la pronunciación oralmente, como fue el caso de las egresadas, sino que también usaron los dedos para mostrar la sílaba acentuada o escribieron la transliteración de la palabra en la pizarra. Cuatro estudiantes de la misma clase informaron que su maestro también les dio dictados con palabras cuya pronunciación era difícil para estos alumnos.

H. Número de horas de árabe estándar moderno en el bachillerato (secundaria)

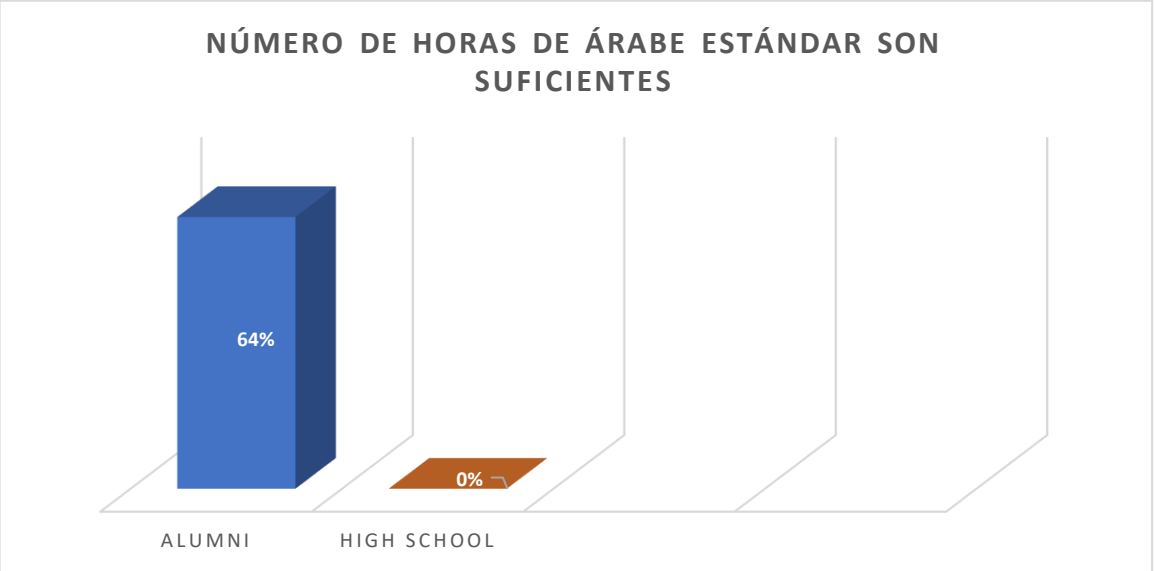


Figura 5.8. Número de horas de árabe estándar moderno en la escuela secundaria

Como evidenciado en la figura 5.8., todos los estudiantes de secundaria están de acuerdo en que la cantidad de horas que se imparten hoy en día no son suficientes para que puedan comunicarse con confianza. Hay alrededor de 2 horas y media de instrucción de MSA en escuelas estadounidenses y británicas (generalmente sesiones diarias de 30 minutos) o 3 horas y veinte minutos en escuelas coránicas privadas (40 minutos todos los días). Los exalumnos, sin embargo, tenían alrededor de cinco horas de instrucción en MSA y todas las materias se impartían en árabe, por lo que el 64 % de los exalumnos consideró suficiente la instrucción que recibieron en MSA. Además, los exalumnos solían comenzar las clases de inglés a la edad de 8 años y hoy en día los emiratíes comienzan entre los 4 y los 6 años. Con respecto a los estudiantes de secundaria en nuestro estudio, el 22 % comenzó a los 4 años, pero la mayoría de ellos, el 57 %, a los 6 años. ; y 21% a la edad de 7 años.

5.1.2. Palabras en inglés usadas en árabe emiratí

Un total de 100 participantes de 18 a 50 años. 52 eran mujeres y 48 hombres. 70 participantes fueron los mismos de los grupos de bachillerato y exalumnos. Sus ocupaciones son profesores, estudiantes, policías, cajeros de banco, un editor de libros, un propietario de restaurante y un trabajador gubernamental. 50 participantes de entre 18 y 20 años, todos asistieron a escuelas privadas; los 50 restantes tenían entre 28 y 50 años y asistían a escuelas públicas. Hubo 30 nuevos participantes de entre 28 y 37 años.

Todos los participantes, independientemente del sexo, la edad o el tipo de escuela, siempre usan las siguientes palabras en inglés cuando hablan el árabe emiratí: USB (se refiere a un pendrive), online, microphone (dos hombres con más de treinta años pronunciaron /mikro'fon/, mientras que el restante /maikro'fon/ [61]), mouse, keyboard, milk shake, Wi-Fi (a veces *Internet* o simplemente *net* para significar Wi-Fi). Tampoco conocen el equivalente de Wi-Fi y *milkshake* (batido) en árabe. 95% de los participantes usan la palabra *coat* (abrigo) para referirse a la bata blanca del médico. Las excepciones fueron un hombre de 30 años que trabaja para el gobierno e informó que él usa puramente árabe, tanto estándar como emiratí en el trabajo. Este participante vive en Sharjah (que tiene menos inmigrantes de habla inglesa comparado con Dubai y Abu Dabi) y trabaja en Dubai. El otro participante, un hombre de 38 años, vive en Abu Dabi de lunes a jueves, pero creció en Al-Ain y vive allí los fines de semana con la familia; en Al-Ain más del 35% de la población está formada por emiratíes. El 3% de los participantes confesó no saber cómo llamarlo.

En cuanto a los participantes de 18 a 20 años, en total 50 jóvenes emiratíes, todos ellos también utilizan siempre el árabe emiratí, además de las palabras enumeradas en el párrafo anterior, los verbos en inglés *to cancel* (cancelar), *to download* (descargar de internet), *to park* (aparcar), *to check* (comprobar) y *to finish* (despedir a alguien del trabajo o dimitir); y las palabras: *password* (contraseña), *gym* (gimnasio), *charger* (cargador), *already*(ya) and *glass* (vaso). Solamente un joven de Abu Dabi, cuya clase social es muy alta, informó que él raramente utiliza el adverbio *already*. Cuando se les pidió que formaran una frase con*already*, a los participantes se les ocurrió las siguientes frases: *Already sharabt mai.* (ya bebí

[61] 23 cuestionarios fueron enviados por correo electrónico o los participantes llevaron cuestionarios a casa para ser contestados por amigos y/o miembros de la familia. No sabemos cómo estos 23 contestantes pronuncian estas palabras.

agua), *Mohamed already kilt (Mohamed ya comió).* El 94% siempre usa la palabra *business* (negocio) y el restante 6% (todos del sexo masculino) utilizan indistintamente *business* y la palabra en árabe *tijara*. El 94% usa la palabra *coat*, para referirse a la bata del médico y 3 participantes confesaron no saber cómo llamarlo. El 92% siempre usa la palabra *class (clase)*, y el 8% la alterna con la palabra en árabe *dars*. El 82% de los jóvenes participantes siempre use la palabra *free* y el 18% la usa a veces, alternando free con el equivalente en el árabe del golfo y del Egipto *bi balash* ببالش (gratis), ninguno dijo utilizar la palabra en árabe estándar moderno *majanan* **مجانا** .

El término *lift* (ascensor) es popular en este grupo: el 76% lo utiliza siempre y el 24% a veces, alternándola con la palabra en árabe estándar *miS3ad* **مصعد** . El 62% siempre o casi siempre utiliza el vocablo *yes* (sí), y el restante usa ambos *yes* y *heeh* (sí en árabe emiratí). El 52% emplea el término *same (mismo, igual)*, mientras que el 48% raramente lo usa y prefiere la palabra en árabe *nafs*. 52% reportaron usar la expresión *good luck* (buena suerte), el 10% (todas chicas) informaron que siempre la utiliza, mientras que el 38% (mayoritariamente chicos) raramente la usan y prefieren la forma en árabe *bi talfiq*.

Este grupo nos brindó las siguiente palabras inglesas que usan cuando hablan en árabe, el número entre paréntesis indica el número de participantes que mencionaron la palabra: *phone* (teléfono) فون (15), *telephone* (teléfono) (14), *bye* (adiós) باي (12), *nice* (guay) **نايس**(11), so (10), *coffee* (café) **كوفي** (10) (para ambas la bebida y la cafetería), *sorry* (lo siento) **سوري** (9), enjoy (disfruta) (9), GPS **جي بي اس** (4), *location* (ubicación) **لوكيشن** (5), *hi* (hola) **هاي**(4 girls and 1 boy), playstation (4 chicos); thanks (gracias) **ثانكس** (4 chicas and 1 chico), businessman (3),mobile (3 chicas), tour **تور** (2 chicas), thank you (2 chicas), *cheesecake* (tarta de queso) (2), chocolate[62] (2) laptop **الابتوب** (2), *light* /leit/ (luz) (2), cartoon (dibujos animados) **كارتون** (1 chico) *my mobile* (*mi móvil*) (1 chica); una informante nos indicó los siguientes vocablos de maquillaje: base, lipstick (pintalabios) , *glitter* (brillo), *highlighter* (iluminador), *make-up* (maquillaje), la palabra usada en árabe es *maquiage del francés.*

[62] Uno de los informantes, que contestaba exclusivamente en árabe dijo: dayman agul chocolate, A7ib chocolate (yo siempre digo chocolate, me encanta el chocolate) es impresionante como usó la palabra chocolate con un perfecto acento en inglés insertado en sus frases en árabe emiratí.

En cuanto a los participantes de 28 a 50 años, que consiste en el 50% de todos los informantes, todos utilizan la palabra *glass* pero solamente el 70% la utiliza siempre, mientras que el 26% a veces usa la palabra en inglés y dos participantes nunca la utilizan. La expresión *good luck* es rara vez usada (el 80% no la utiliza), apenas el 12% siempre la emplea (todos entre 28 y 30 años) y el 8% nunca la usa (todos con más de 38 años). El vocablo *charger* es siempre usado por el 96% de los informantes; apenas dos participantes del sexo masculino con más de 40 años reportaron usarla a veces.

El adverbio *already* es siempre usado entre los informantes más jóvenes de 38 años y siempre usado por 4 participantes mayores de 38, totalizando el 60% de este grupo. El 10% a veces lo usa y el 30% (15 participantes mayores de 38) raramente o nunca lo usa.

El vocablo "yes" pierde prestigio en este grupo, solamente dos participantes del sexo femenino siempre lo usan. El 70% confesó usar ambos *yes* y *hee* y el 26% nunca lo utiliza en inglés. La palabra *same*, sólo tres chicas (6%) siempre la usa, el 30% a veces y el 74% nunca la usa.

Los verbos *cancel* y *check* son menos utilizados en este grupo, el 40% siempre los usa (todos menores de 38) y el 58% a veces. El verbo *download* es siempre usado por apenas el 30%, el 60% a veces lo usa y el 10% (5 hombres con más de 36) siempre lo usa en árabe (*nazala*).

Los informantes también reportaron usar las siguientes palabras en inglés cuando hablan árabe emiratí: phone (7), enjoy (3), cycle (para bicycle) (2), light (2), lab (2); las siguientes palabras fueron mencionadas solamente una vez: so, scan, smart phone, application, hard disc, wire, dress (el uniforme del ejército), brake, bonnet, project, bus, spray, cafeteria, canteen, condition (para aire acondicionado, el informante tenía 50 años), freezer (pronunciado /freizer/ y projector. Una participante informó usar frecuentemente las siguientes expresiones: *you know*, *I think*, *sometimes* y *novel*.

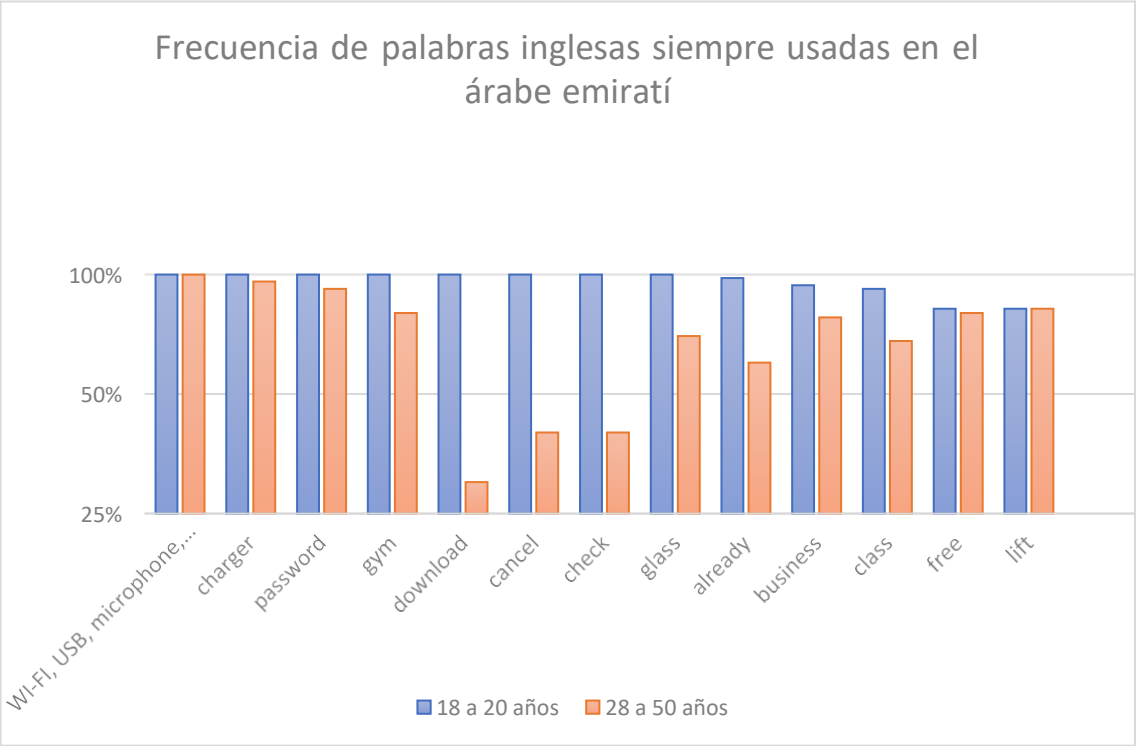


Figura 5.9.

El gráfico de la Figura 5.9. nos muestra que todos los participantes de 18 a 20 años siempre usan palabras en inglés con más frecuencia que el grupo de 28 a 50 años, a excepción de la palabra *lift* que es utilizada por igual por ambos grupos. Sin embargo, *lift* se alterna con la palabra MSA mis3ad en el primer grupo; ya en el segundo, a veces se alterna con la palabra francesa ascenseur y el 10% de los participantes utiliza exclusivamente la palabra misa3d.

5.2. Entrenamiento de pronunciación

Había veinte participantes en el grupo de control (de ahora en adelante, este grupo se mencionará como control), veinte participantes con algunas inclinaciones hacia la música estaban incluidos en el grupo experimental (de ahora en adelante, exp.).

5.2.1. Primera grabación: pretest de producción

Los participantes de ambos grupos hicieron la prueba preliminar 1 (apéndice E.) y cada sonido estudiado, /æ/, /v/, /p/ y /r/, se analizó diez veces en el discurso. Si solo un estudiante pronunció una palabra correctamente, por ejemplo, hay un número 1 debajo de la palabra, si todos se equivocaron, hay un 0. En caso de que cuatro participantes pronunciaran bien una palabra, hay un 4. Una regla de tres se utilizó para calcular el porcentaje de respuestas correctas. En este caso, 200 es el extremo de la proporción (la cantidad total de respuestas

correctas, 20 alumnos x 10 palabras = 200). Por ejemplo, el primer fonema /æ/ analizado para el grupo 1 se calculó así: hubo ocho participantes que acertaron solo una vez en ocho palabras. Por lo tanto, tenemos 100 % = 200 respuestas correctas y x%= 8 respuestas correctas, usando la regla de tres tenemos: x = 8 x 100%/200. Podemos concluir que 8 respuestas correctas = 4%

Pretest de producción del grupo control – porcentaje de pronunciación correcta

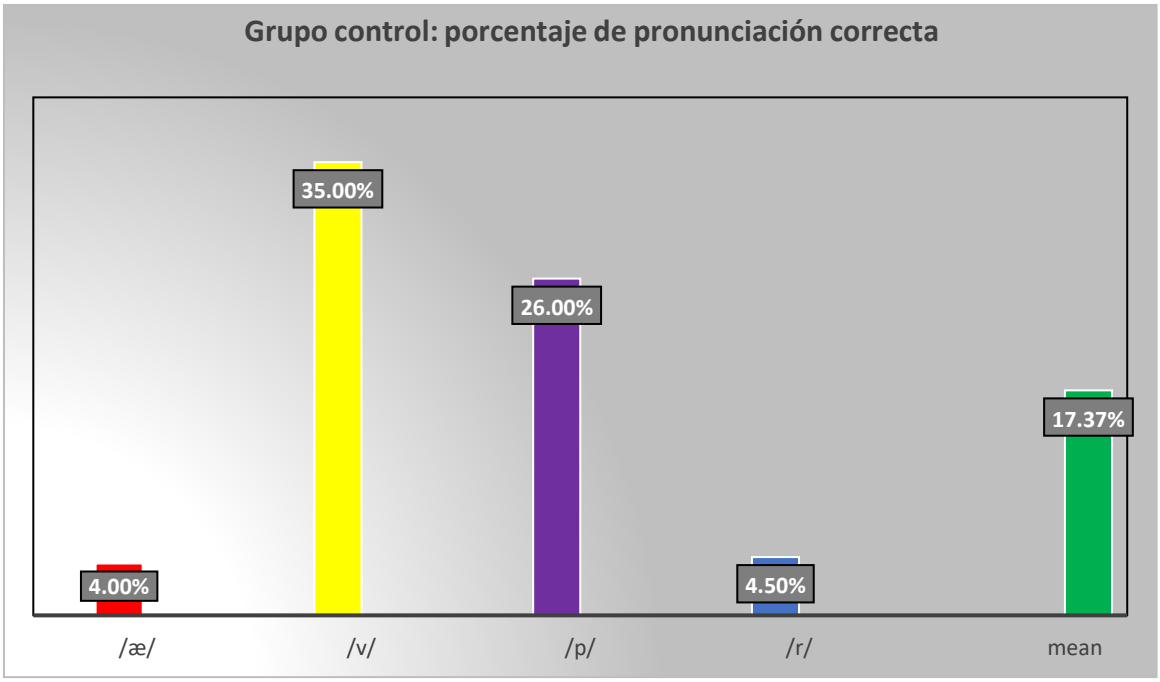


Figura 5.10.

Como lo demuestra el gráfico de la Figura 5.10, podemos notar que solo el 4% de los participantes pudo pronunciar correctamente el sonido /æ/, y el 4,5% pronunció correctamente el sonido /r/. La media en el gráfico muestra el promedio de pronunciación correcta; la suma de los cuatro sonidos analizados dividida por cuatro. Por lo tanto, la media del grupo de control = 4 % + 35 % + 26 % + 4,5 % / 4

Media del grupo de control = 69,5 / 4

Media del grupo control = 17,37%

La media del 17,37 % de respuestas correctas en esta prueba preliminar sugiere que los participantes del grupo de control tenían problemas para lidiar con estos sonidos. Durante las siguientes seis sesiones intentaremos mejorar estas cifras.

Pretest de producción del grupo experimental – porcentaje de pronunciación correcta

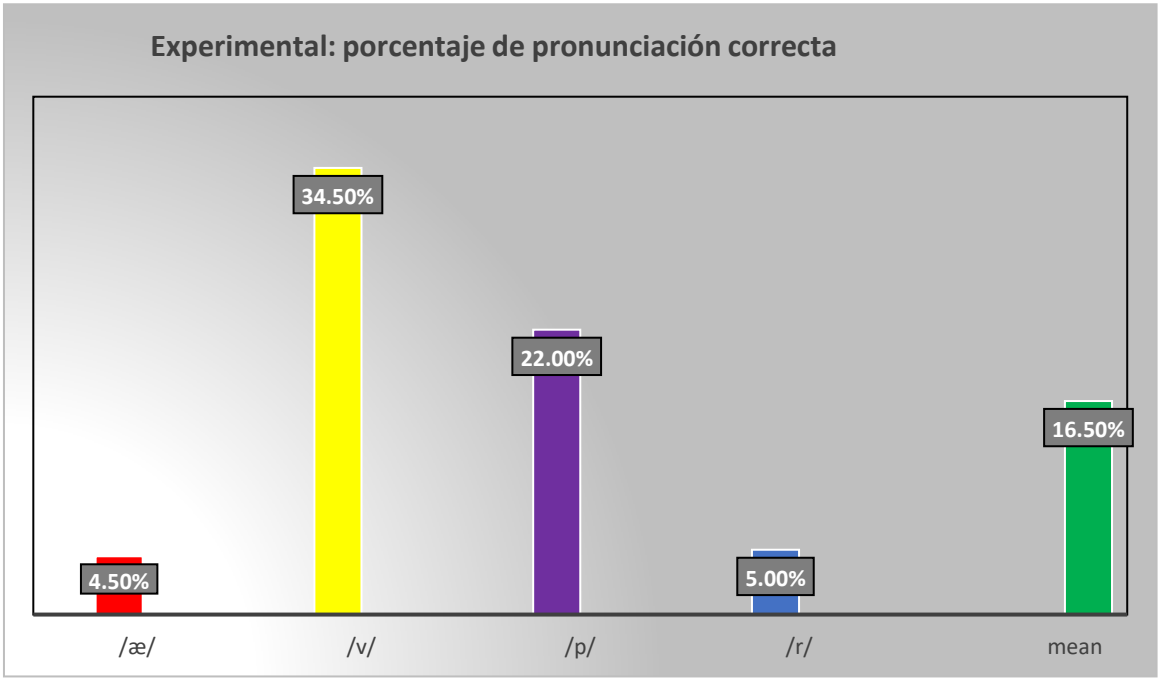


Figura 5.11

Como podemos observar en la Figura 5.11., la suma del porcentaje de pronunciación correcta de los cuatro sonidos analizados dividido por cuatro nos da la media de pronunciación correcta. Así, media del grupo experimental = 4,5% + 34,5% + 22% + 5% / 4

Exp. media del grupo = 66 / 4

Exp. media del grupo = 16,5%

Como podemos observar, hay menos del 1% de diferencia entre la media de pronunciación correcta entre los grupos control y experimental.

5.2.2. Segunda grabación: Postest de producción 1

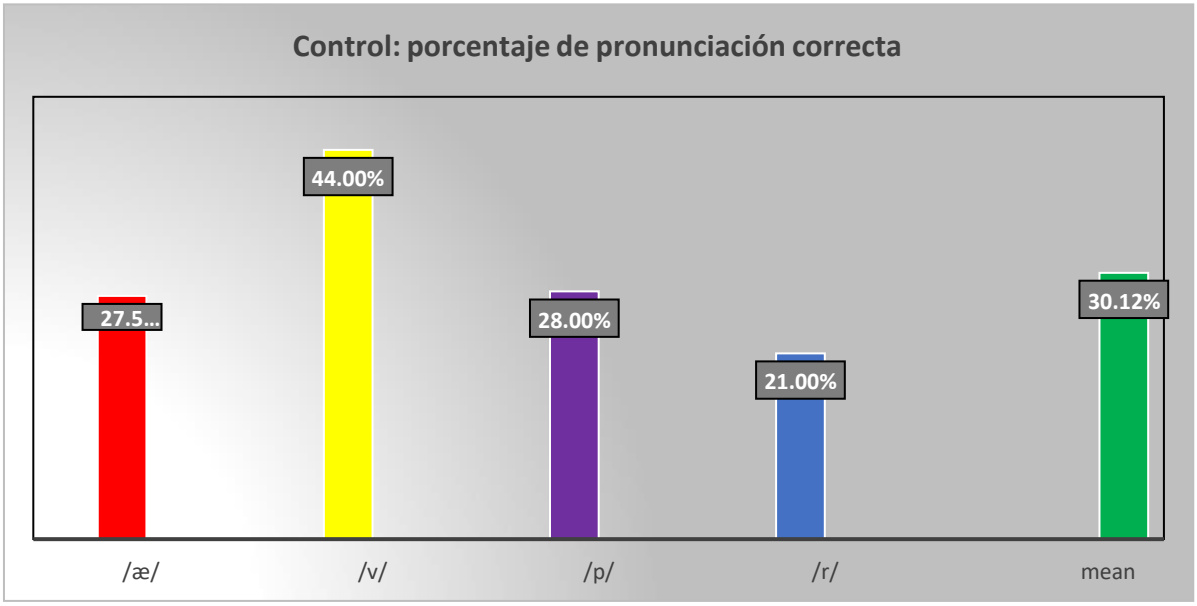


Figura 5.12.

Como podemos notar en el gráfico de la Figura 5.12., el grupo de control mejoró todos los sonidos en el postest 1. El peor desempeño había sido con el sonido /æ/ y /r/. Solo el 4% de los participantes logró pronunciar correctamente el sonido /æ/ y en el postest 1, y en este segundo postest lograron un 27,5% de pronunciación correcta. En cuanto al sonido /r/, mejoró de 4,5% en el pretest a 21%. La media aumentó del 17,37 por ciento de respuestas correctas al 30,12 por ciento. El sonido mejor interpretado fue la /v/, con un 44 por ciento de pronunciación correcta.

Grupo Experimental: Postest de producción 1 – porcentaje de pronunciación correcta

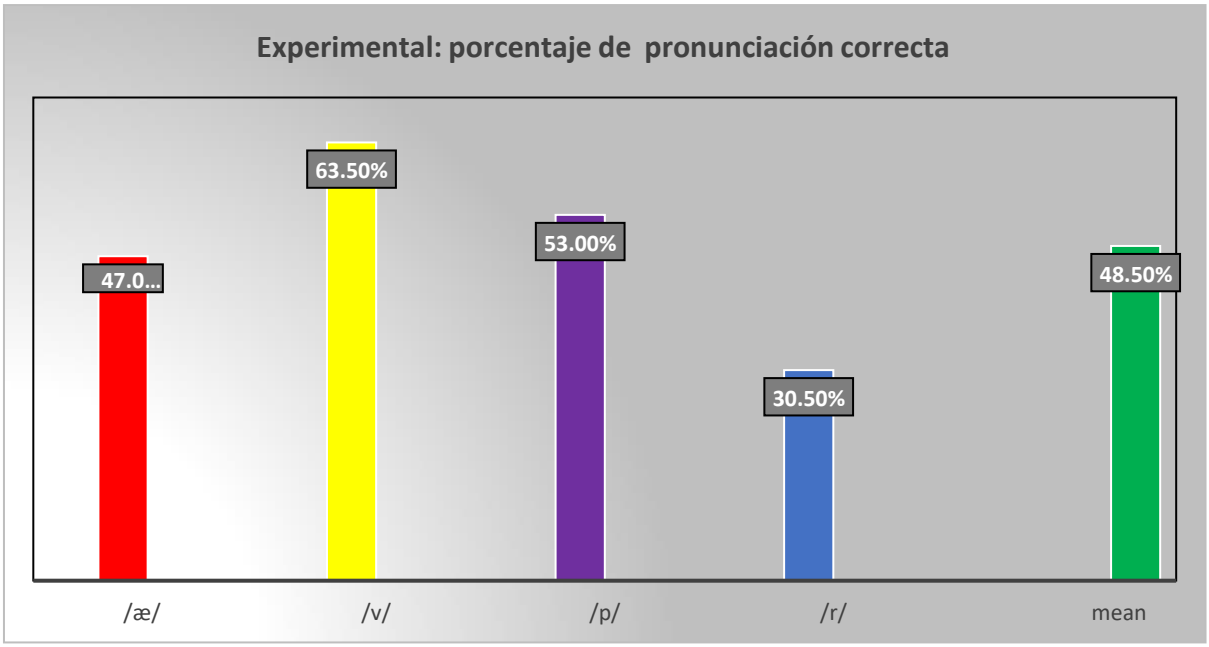


Figura 5.13.

Como lo demuestra el gráfico de la Figura 5.13, la media es un 48,50 % de pronunciación correcta, más del 18% mejor que el grupo control. El mejor desempeño fue nuevamente con el sonido /v/, que alcanzó el 63.5 % de pronunciación correcta. Justificamos este excelente rendimiento del sonido /v/ debido al hecho de que el inglés es, de hecho, el idioma más hablado en los Emiratos Árabes Unidos. Aunque el sonido /v/ está ausente en el alfabeto árabe, los participantes ya tenían un desempeño razonable en la prueba preliminar.

5.2.3. Tercera grabación: postest de producción 2

Grupo control: Postest 2 de producción – porcentaje de pronunciación correcta

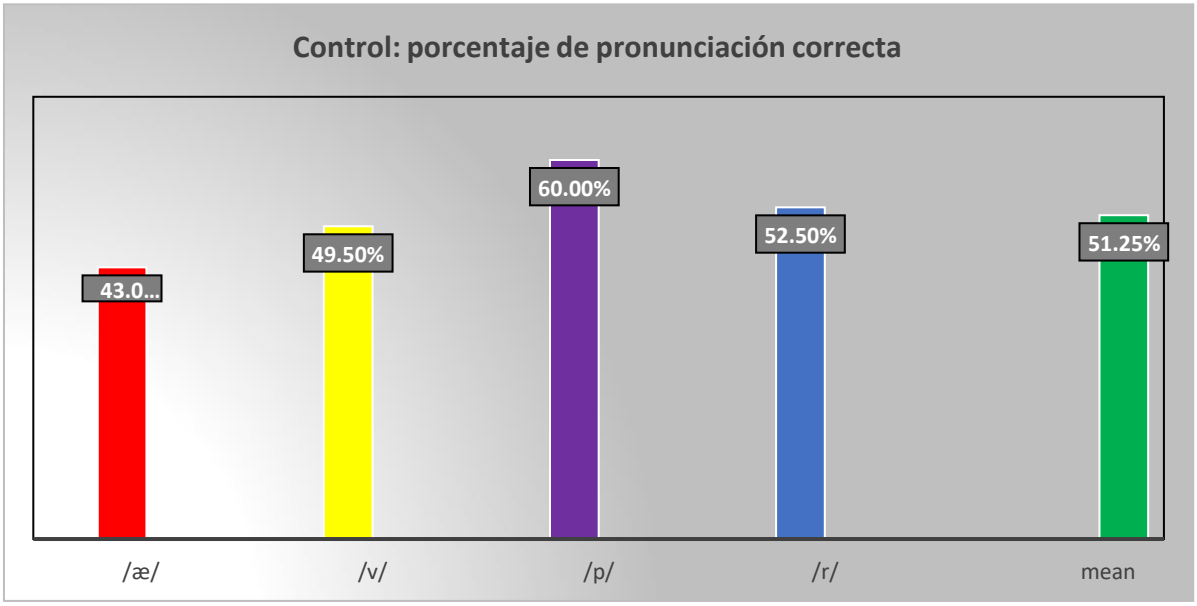


Figura 5.14.

Como lo demuestra el gráfico de la Figura 5.14., la media de respuestas correctas para el grupo de control es de 51.25 por ciento. El mejor desempeño ahora fue, sin embargo, la pronunciación del sonido /p/, que obtuvo un 60 por ciento de respuestas correctas. Esta gran mejora probablemente se debió a que a los participantes se les mostró un video corto de 3 minutos con una broma de un examinador de tráfico árabe que le pide a un extranjero que "aparque" (*park* en inglés), pero él pronuncia "ladrar" (*bark* en inglés) en su lugar, el examinado termina reprobando su examen de conducir porque no "ladró". El peor desempeño en la prueba previa había sido el sonido /æ/ que mejoró del 4 por ciento en el pretest al 43 por ciento de respuestas correctas en el postest 2.

Grupo experimental: Postest 2 de producción – porcentaje de pronunciación correcta

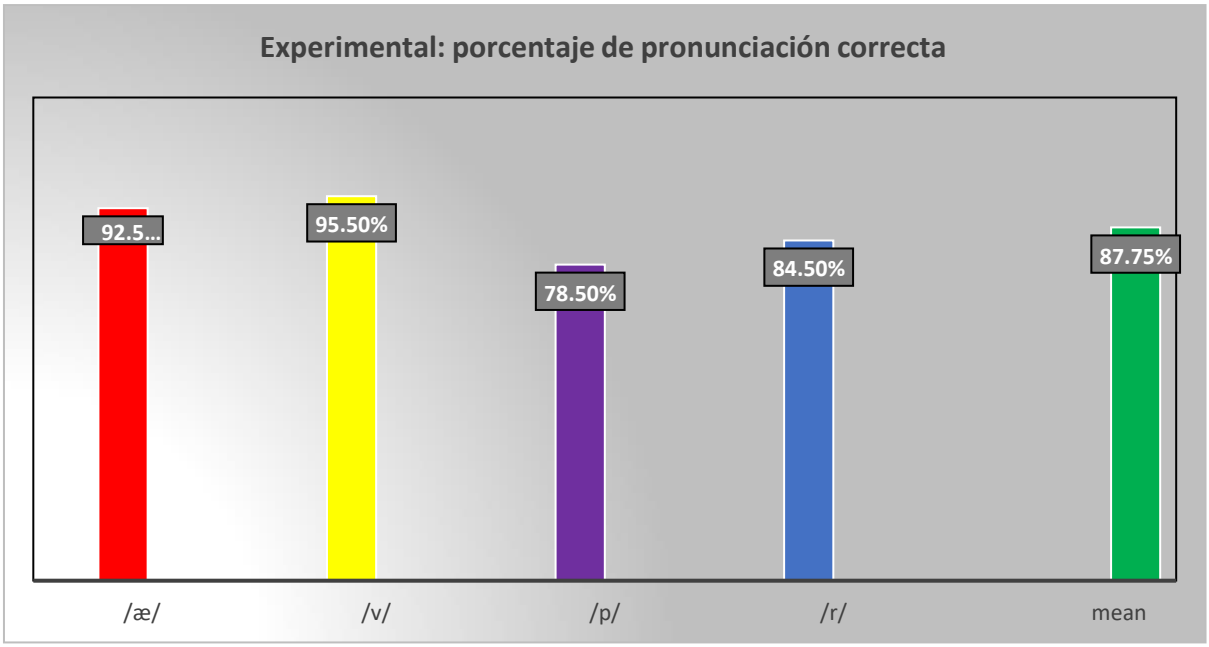


Figura 5.15.

La Figura 5.15. nos muestra que el fonema /v/ fue nuevamente el sonido mejor asimilado con un total de 92.5 por ciento de pronunciación correcta. La media de aciertos para el grupo experimental es del 87,75 por ciento de aciertos. Si comparamos la media de aciertos del grupo control (56,52%) con la media del grupo experimental (87,75%), notamos que el rendimiento del grupo experimental fue superior al 30% respecto al grupo control.

Análisis descriptivo

Para realizar un análisis descriptivo se aplicó la prueba U de Mann-Whitney:

Para contrastar la hipótesis de si existen diferencias entre el pretest y el postest 2 respecto a los grupos control y experimental, lo primero que hemos hecho es calcular una variable de diferencia entre las puntuaciones del postest 2 y el pretest. Luego para ver si hay diferencias entre esta variable dependiendo del grupo, (ya que la normalidad de la variable diferencia no se cumplió en ambos grupos) hemos utilizado la prueba no paramétrica U de Mann-Whitney donde las hipótesis son:

Ho: No hay diferencias entre las medias entre el grupo control y el grupo experimental.

H1: Si hay diferencias entre las medias entre el grupo control y el grupo experimental.

Como se muestra en la Tabla 5.4, se obtuvo un resultado z = -5.447 con un p-valor asociado menor a 0.001, por lo que se rechazó la hipótesis nula de igualdad de medias y por lo tanto podemos decir que el incremento en los puntajes en la prueba experimental (media = 13,550; desviación estándar (DE) = 2,328; mediana 12), es significativamente mayor que la encontrada en el grupo control (media = 28,600; DE = 2,437; mediana 28).

5.4. Entrenamiento gramatical: Las preposiciones en árabe

5.4.1. Pretest de gramática (preposiciones)

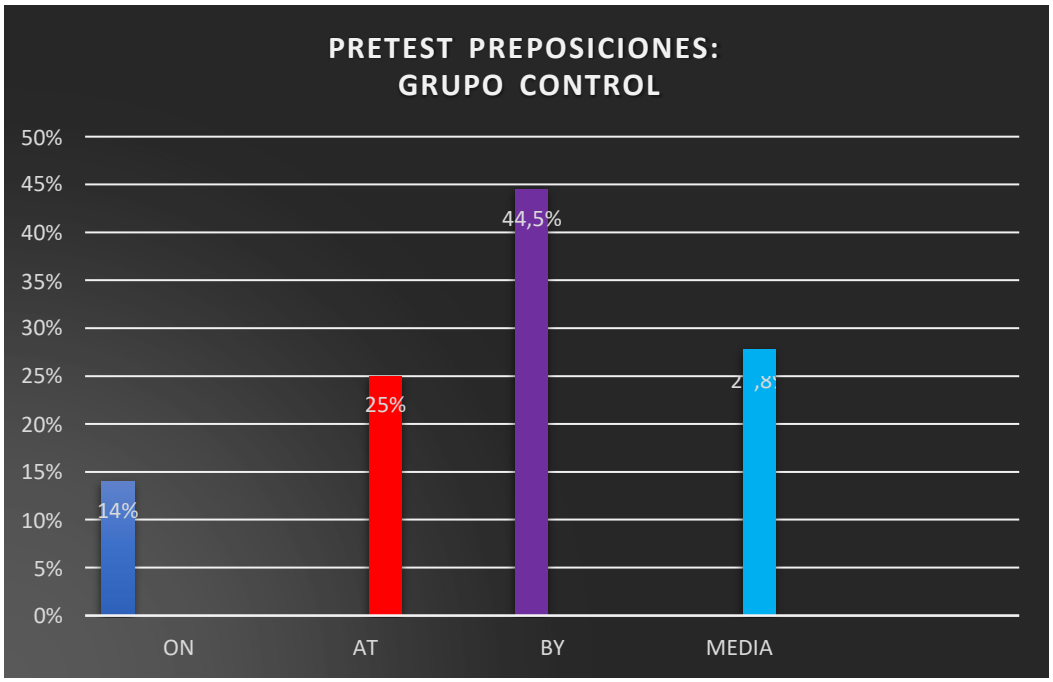


Figura 5.16. Grupo Control: Pretest de las preposiciones y media

Como se evidencia en la Figura 5.16., la preposición *on* obtuvo el desempeño más bajo mientras que la preposición *by* obtuvo el más alto. La media del grupo control para las respuestas correctas fue del 27,8%.

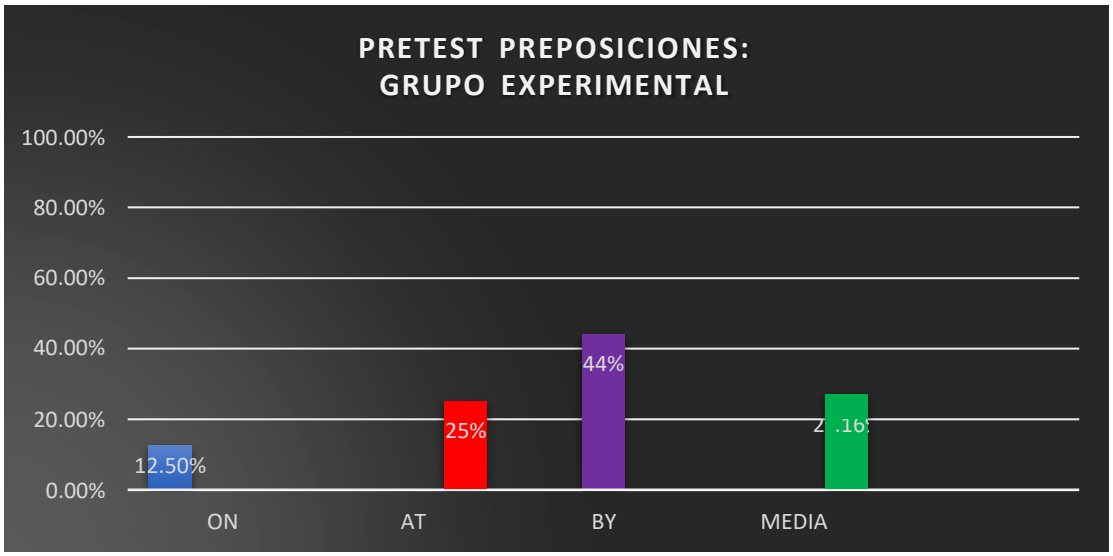


Figura 5.17. Grupo experimental: Pretest de las preposiciones y media

Como podemos observar en la Figura 5.17., la preposición *on* obtuvo el rendimiento más bajo frente a la preposición *by* que obtuvo el más alto. La media del grupo control para las respuestas correctas fue del 27,16%. Si contrastamos la Figura 5.16. y la Figura 5.17., podemos observar que ambos grupos obtuvieron resultados similares.

Table 5.1. Resultados del pretest con relación al género y nivel de escolaridad

Total de respuestas correctas	Género: masculino - total número de respuestas correctas	Género: femenino - total número de respuestas correctas	nivel de escolaridad: secundaria	nivel de escolaridad: Universitario o máster
330	134	196	71	259

Los resultados evidenciados en la Tabla 5.1. no contemplan los resultados de la preposición *in*, ya que hemos decidido descartarla del estudio debido al alto número de respuestas precisas. Para comprender mejor estas cifras, veámoslas en la Figura 5.18 a continuación:

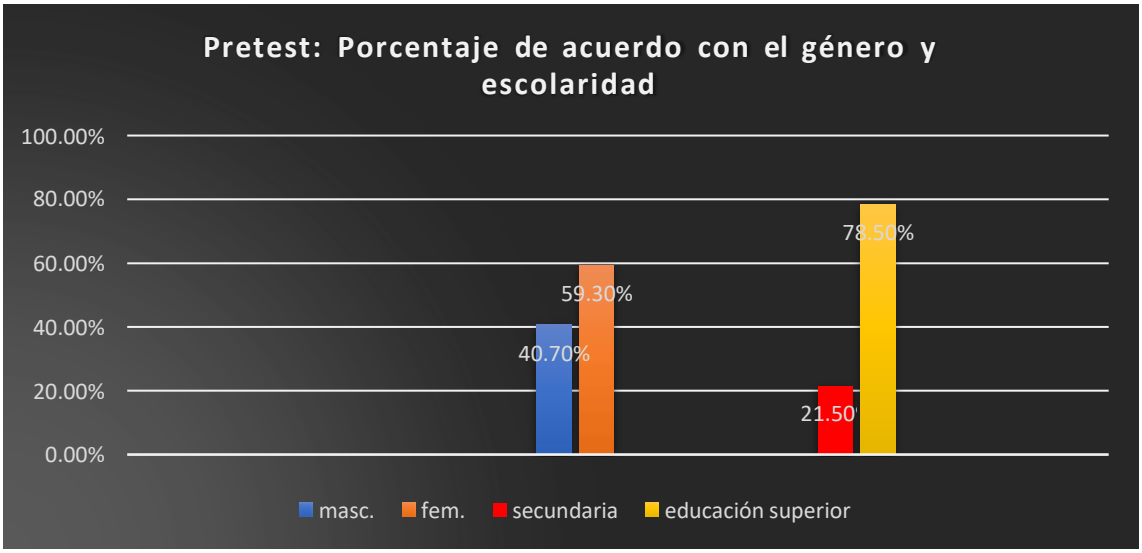


Figura 5.18. Pretest: Porcentaje de respuestas correctas sobre género y educación

Como podemos observar en la Figura 5.18, las concursantes femeninas obtuvieron mejores resultados que su contraparte masculina. El nivel de educación jugó un papel crucial en el uso de la preposición correcta, ya que el 78,5% de los participantes que usaron las preposiciones correctas tienen un título de educación superior.

5.4.2. Postest 1 de gramática (Preposiciones)

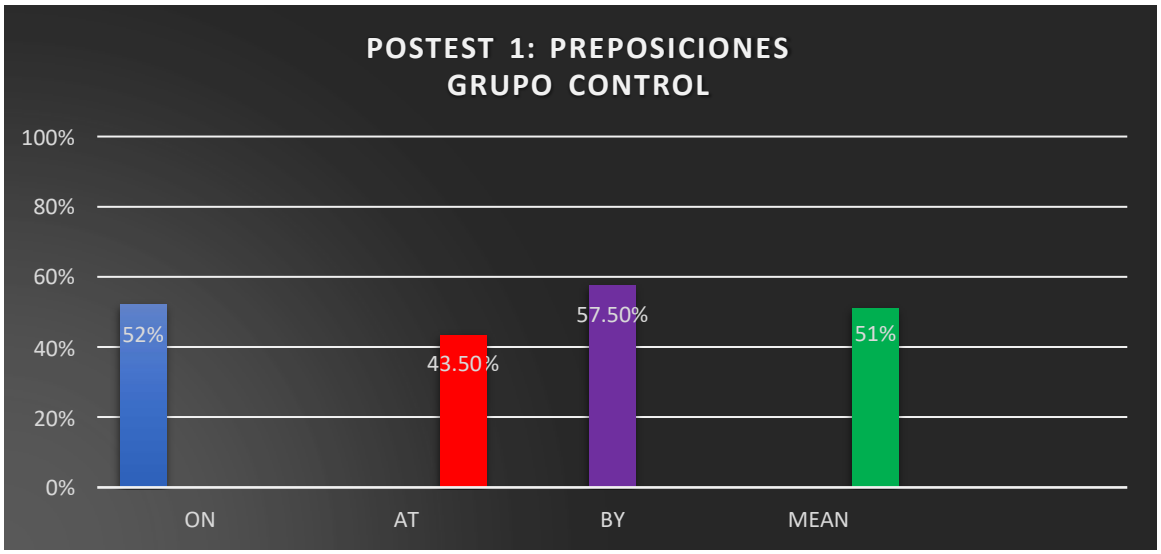


Figura 5.19. Postest 1: preposiciones do grupo control y media

La Figura 5.19. muestra que la media del grupo control es del 51% de aciertos. Este porcentaje casi se duplicó en comparación con la media del grupo control en el pretest (Figura

3), que fue de 27,83%. Podemos confirmar que el entrenamiento contribuye a un mejor desempeño en la discriminación e identificación de L2.

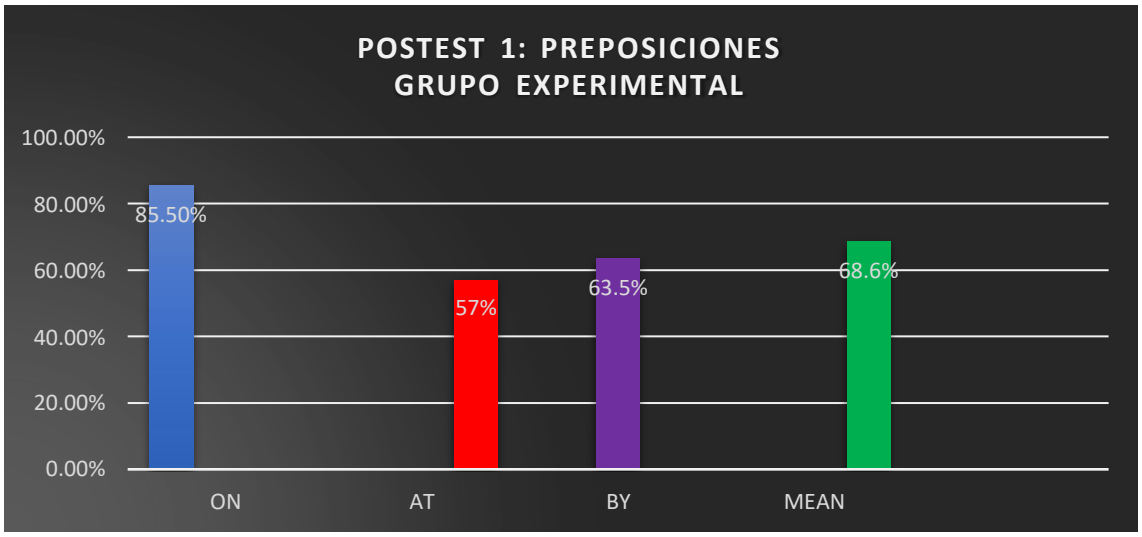


Figura 5.20. Postest 1: preposiciones do grupo experimental y media

La Figura 5.20. nos enseña el desempeño del grupo experimental en el Postest 1 respecto a las preposiciones on, at y by. Se pueden observar mejores resultados cuando se compara con el grupo control en el mismo postest (Figura 5.19).

Table 5.2. Postest 1: Resultados relacionados al género y nivel de escolaridad

Total de respuestas correctas	Género: mascul. - número total de respuestas correcta	Género: femenino - número total de respuestas correctas	Nivel de escolaridad: secundaria	Nivel de escolaridad: Universidad o máster
718	306	412	293	425

Como podemos observar en la Tabla 5.2., el postest 1 confirmó las propensiones en el pretest: Las participantes mujeres y las que tienen estudios universitarios o de maestría obtuvieron mejores resultados. Visualicemos estas figuras en la Figura 5.21. a continuación:

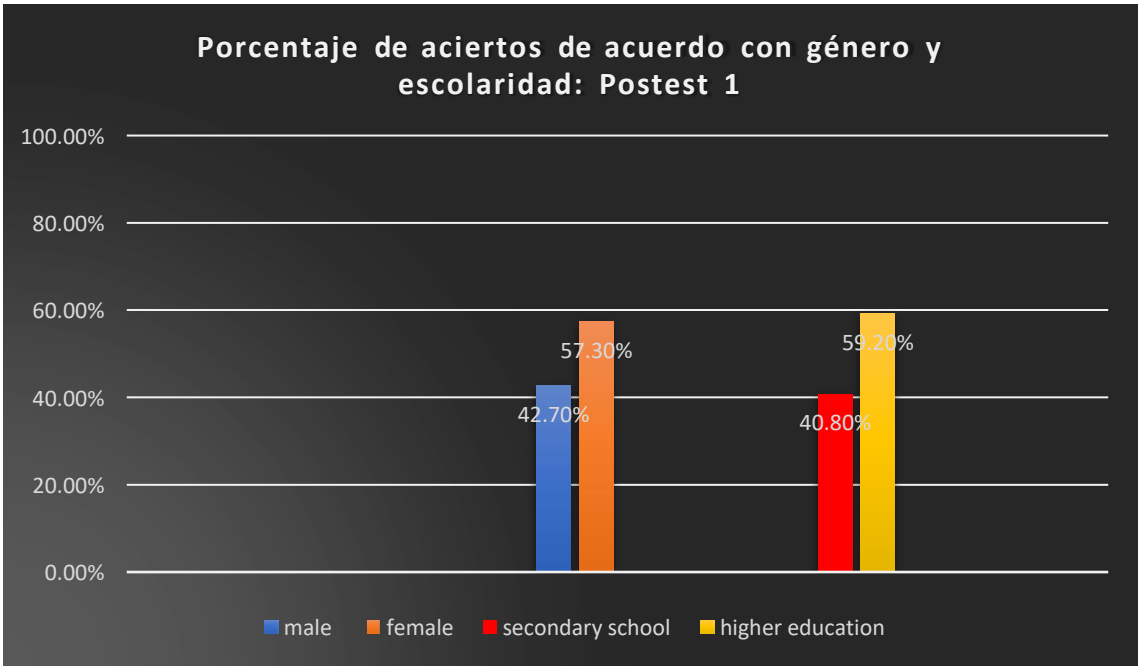


Figura 5.21. Postest 1: Porcentaje de respuestas correctas de acuerdo con el género y l la escolaridad

Como podemos observar en la Figura 5.21., el Postest 1 confirmó las propensiones en el pretest: Las participantes mujeres y las que tienen un título universitario o de maestría obtuvieron mejores resultados.

5.4.3. Postest 2 de gramática (preposiciones)

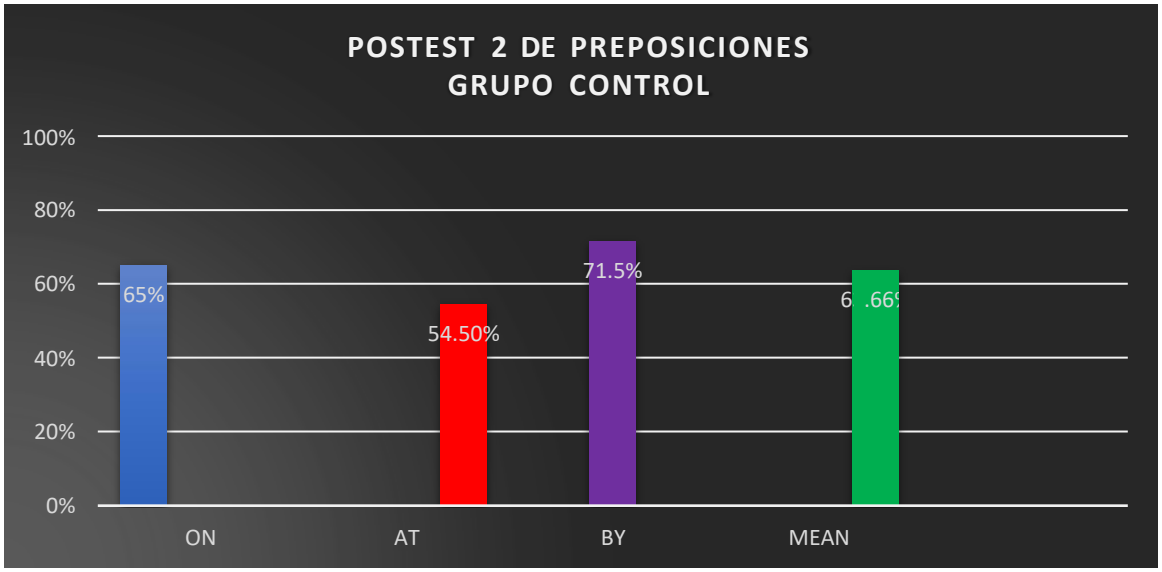


Figura 5.22. Postest 2: Grupo control: Preposiciones y media

La Figura 5.22. muestra que la media del grupo control es del 63,66% de aciertos. Este porcentaje se duplicó en comparación con la media del grupo control en el pretest (Figura 5.12), que

fue del 27,83 %. Nuevamente, podemos confirmar que el entrenamiento contribuye a un mejor desempeño en la discriminación e identificación de la L2 (Daquila, 2014; Evans & Iverson, 2007; Logan & Pruitt, 1995).

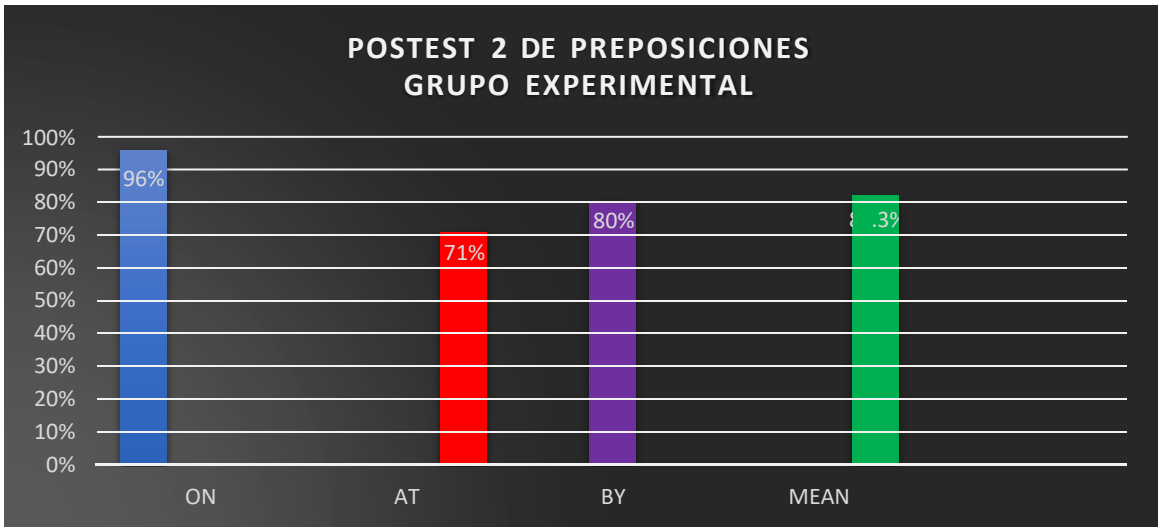


Figura 5.23. Postest 2: Grupo experimental - preposiciones y media

La Figura 5.23. evidencia el desempeño del grupo experimental en el Postest 2. Observamos resultados casi un 20% superiores al compararlo con la media del grupo control (Figura 5.22).

Tabla 5.3. Postest 2: Porcentaje de aciertos con relaciones al género y escolaridad

Total aciertos	Género: masculino - total aciertos	Género: femenino - total aciertos	nivel de escolaridad: secundaria	nivel de escolaridad: Universidad o máster
876	407	469	414	462

Como podemos observar en la Tabla 5.3., el postest 2 volvió a confirmar las propensiones en el pretest y postest 1: Las participantes del sexo femenino y las que tienen estudios universitarios o de maestría obtuvieron mejores resultados. Visualicemos mejor estas cifras en la siguiente figura:

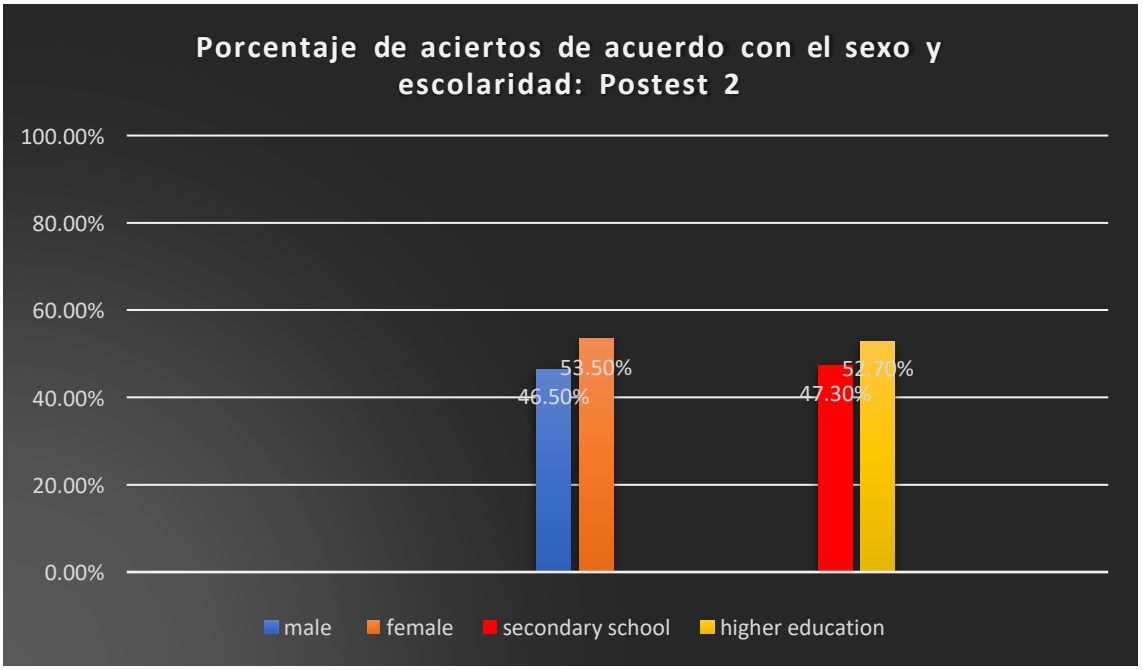


Figura 5.24. Postest 2: Porcentaje de respuestas correctas con relación al género y escolaridad

La Figura 5.24. Evidencia un panorama más homogéneo, mientras que hay una diferencia del siete por ciento entre las respuestas correctas entre los participantes masculinos y femeninos, hay una diferencia del cinco por ciento entre los participantes que terminaron la secundaria y los que cursaron estudios superiores. Las diferencias en el nivel de estudios en el pretest fueron superiores al 50%.

Análisis descriptivo

Para realizar un análisis descriptivo se aplicó la prueba U de Mann-Whitney:

Para contrastar la hipótesis de si existen diferencias entre el pretest y el postest 2 respecto a los grupos control y experimento, lo primero que hemos hecho es calcular una variable de diferencia entre las puntuaciones del postest 2 y el pretest. Luego para ver si hay diferencias entre esta variable dependiendo del grupo, (ya que la normalidad de la variable diferencia no se cumplió en ambos grupos) hemos utilizado la prueba no paramétrica U de Mann-Whitney donde las hipótesis son:

Ho: No hay diferencias entre las medias entre el grupo control y el grupo experimental.

H1: Si hay diferencias entre las medias entre el grupo control y el grupo experimental.

Como nos muestra la Tabla 5.17 a continuación, se obtuvo un resultado z = -5.531 con un p-valor asociado menor a 0.001, por lo que se rechazó la hipótesis nula de igualdad de medias y por lo tanto podemos decir que el incremento en los puntajes en el grupo experimental (media = 16,450; desviación estándar (DE) = 0,759; mediana 17), es significativamente mayor que la encontrada en el grupo control (media = 10,750; DE = 1,070; mediana 11).

Tabla 5.4. Prueba U de Mann-Whitney

	Control			Experimental				
	Media	s.d.	med.	Media	s.d.	med.	z	p-valor
Differencias pre-post2	10,750	1,070	11	16,450	0,759	17	-5,531	< 0,001

VI. Conclusión

Este estudio se ha centrado en el análisis de los bachilleratos de Dubái y Abu Dabi y los beneficios de las Inteligencias Múltiples cuando se utilizan en el aula – o fuera – para ayudar a los estudiantes a mejorar cualquier materia.

En la primera parte de nuestro estudio donde se analizó a alumnos y exalumnos de secundaria, descubrimos que en los Emiratos las Inteligencias Múltiples aún se encuentran en su etapa inicial. Aunque hoy en día solo el 27% de las clases están centradas en el libro, las actividades de IM no van más allá de aprender música por diversión o para practicar inglés. En cuanto a los pasatiempos, el 90% de los exalumnos se muestra escéptico o en contra de aprender contenido a través de sus pasatiempos, mientras que solo el 35% de los estudiantes de secundaria disfrutó de la idea. El escenario de las clases también cambió drásticamente, de ser 100% en las aulas a sólo 10%; los estudiantes de secundaria a veces tienen clases en un museo, en el laboratorio de química o en un teatro.

Hubo un cambio en los últimos 20 años del árabe al inglés en los bachilleratos de Dubai y Abu Dabi. Solo el 23% de los estudiantes del grupo de secundaria todavía tienen todos los contenidos en árabe, mientras que hace 20 años todas las instrucciones eran exclusivamente en árabe. Las tareas pasaron de ser únicamente ejercicios escritos individuales a agregar desarrollo de proyectos e investigaciones en internet. Un aspecto que nunca ha cambiado es el hecho de que los exalumnos y estudiantes de secundaria están de acuerdo en que los expatriados no tienen suficiente nivel de árabe para mantener una conversación. En el caso de los exalumnos, solo una cuarta parte tuvo contacto con expatriados por lo que hablarían más en árabe, mientras que el 100 % de los estudiantes de secundaria hablan con los expatriados únicamente en inglés, lo que también refleja la insatisfacción de todos los estudiantes de secundaria con respecto a la cantidad de instrucción de MSA, mientras que el 64 % de los exalumnos estaban contentos con la MSA que recibieron en la escuela.

Cuando se les preguntó a los emiratíes si preferían enviar mensajes de texto a sus amigos en escritura árabe, Arabizy o en inglés (consulte el Apéndice J), el 100 % de los participantes mayores de 38 años dijeron que usan escritura árabe y muchos mencionaron que envían mensajes de texto usando árabe emiratí, en lugar del árabe estándar moderno. Solo dos participantes masculinos dijeron que a veces envían mensajes de texto con una

palabra extranjera en inglés, por ejemplo, "*already*" (ya), ya que no tienen esta palabra exacta en árabe. Dos mujeres emiratíes también usan la palabra, pero cuando la envían por mensaje de texto, usan caracteres árabes. Más del 90% de los participantes jóvenes de entre 18 y 20 años también dijeron que prefieren enviar mensajes de texto en árabe emiratí y que a veces usan jerga o palabras de moda en inglés.

También pudimos observar que muchas palabras en inglés son compartidas entre los emiratíes por razones históricas, palabras que fueron mencionadas por participantes de 18 a 50 años, como glass, lift, light y wire; sin embargo, los estudiantes adolescentes han indicado una mayor preferencia por el uso del inglés en sus actividades diarias. El aumento de la exposición al inglés en lugar del árabe en la escuela, en las instalaciones deportivas y comerciales, a través de los medios de comunicación e Internet hace que los estudiantes se vuelvan más competentes en el primero y menos fluidos en el segundo. Además, el plan de estudios de inglés ofrece una amplia gama de programas de certificados internacionales, que facilitan el acceso de los estudiantes a la educación superior en universidades en el extranjero. Ser bueno en inglés también es imprescindible para ir a la universidad.

No se puede negar que el empeño de los países del Golfo por alcanzar estándares globales de desarrollo y adaptarse a la modernización y la globalización hace que adopten el inglés, aunque no exclusivamente, como medio de instrucción. Sin embargo, para reforzar la lengua y la identidad árabes, es crucial que los estudiantes permanezcan apegados a su lengua local materna mediante la implementación de un sistema bilingüe real en el que se enseñe inglés sin detrimento del árabe.

En cuanto a la segunda parte de nuestro estudio, nos gustaría evidenciar a través de los resultados que el entrenamiento es una forma efectiva de mejorar cualquier materia escolar, en el caso de este estudio, más específicamente la pronunciación y las preposiciones. Se observó una gran mejora después de cada postest, principalmente en el grupo experimental en el que se utilizó la música como un potente estímulo para ayudar a los participantes a asimilar mejor el contenido.

En cuanto al entrenamiento de pronunciación, las medias de pronunciación correcta para los grupos control y experimental fueron muy similares en el pretest, 17,37% y 16,50% respectivamente. Estas medias aumentaron a 30,12% y 48,50% en el postest 1; en cuanto al

postest 2, el grupo control alcanzó un 51,25% mientras que el experimental un 87,75% de aciertos. El rendimiento en el grupo experimental fue más de un tercio mejor que en el grupo de control. Ambos grupos recibieron exactamente la misma cantidad de entrenamiento, por lo tanto, la música utilizada en el grupo experimental parece haber jugado un papel fundamental en la mejora de la producción de los participantes. No olvidemos que solo una cantidad insignificante de los exalumnos informó haber sido corregido al pronunciar mal una palabra cuando iban a la escuela (aunque el instructor tenía un fuerte acento árabe). Los participantes tenían entre 28 y 38 años para probar que la Hipótesis del Período Crítico (Lenneberg, 1967; Penfield & Roberts, 1959; Scovel, 1988) no es determinante cuando se enseña fonética de forma explícita. Este estudio está en consonancia con nuestro estudio previo de pronunciación (Ribeiro Daquila, 2014), en el que los participantes del grupo experimental, que tenían edades entre 15 y 30, obtuvieron una diferencia estadísticamente significativa en comparación con el grupo control cuyos participantes tenían entre 12 y 17 años.

Solo 2 participantes del grupo experimental habían oído hablar de IM, y la mayoría se mostró escéptico sobre el uso de las inteligencias para impulsar otras áreas del conocimiento. Ante la pregunta de si se debe utilizar la música en el aula, la gran mayoría respondió que no sabía e incluso algunos expresaron que no era buena idea mezclar aprendizaje y diversión. Después de ver una lista con las ocho inteligencias, los participantes identificaron las inteligencias lingüística y matemática como las más importantes, ignorando las inteligencias restantes.

Con respecto al entrenamiento de preposiciones, descubrimos que *in* es la preposición preferida utilizada por los emiratíes; es la preposición por defecto para reemplazar *on* y *at*. En el pretest, tanto el grupo control como el experimental fueron homogéneos, obteniendo una media de preposiciones correctas del 27,8% y 27,16% respectivamente. Nos gustaría destacar que el nivel educativo jugó un papel clave en la precisión de las preposiciones, ya que el 78,5% de las respuestas correctas fueron obtenidas por participantes que habían recibido educación superior. En el postest 1 estas medias aumentaron al 51% y 68,5%. Si bien los participantes que tenían estudios superiores continuaron predominando en cuanto a la corrección, obteniendo un 59,2% de respuestas correctas, el desempeño de los estudiantes de secundaria también mejoró. Finalmente, en el postest 2 el grupo control alcanzó un total

de 63,66% de aciertos mientras que el grupo control alcanzó un 82,3%. De nuevo podemos sugerir que la música jugó un papel importante en el entrenamiento de las preposiciones.

También podemos inferir que el entrenamiento redujo las diferencias entre los estudiantes de secundaria, quienes fueron responsables del 47,3% de las preposiciones correctas y los participantes que recibieron educación superior, quienes obtuvieron el 52,7% de las respuestas correctas. Las mujeres se desempeñaron ligeramente mejor que los hombres, siendo responsables del 53,5% de los aciertos.

Se encontraron resultados similares en los grupos experimental y de control en ambos entrenamientos de pronunciación y preposiciones. Al utilizar la prueba no paramétrica U de Mann-Whitney en ambos experimentos (pronunciación y preposición) pudimos rechazar la hipótesis nula de igualdad de medias, y por lo tanto pudimos evidenciar que el incremento en las puntuaciones en los grupos experimentales fue significativamente mayor que el encontrado en los grupos de control.

Nos gustaría destacar que cantar fue la actividad más frecuente identificada como musical en los EAU. Tales experiencias musicales pasivas no sirven para enseñar conceptos musicales, habilidades de cante o contenido musical si los maestros no están capacitados o no están dispuestos a hacerlo. Sin embargo, nos gustaría motivar a los docentes a utilizar la música en los entrenamientos para confirmar si ellos también obtienen mejores resultados. Cuanta más investigación en el área, más podremos determinar la importancia de la IM. También es cierto que las implementaciones de IM sufren un revés crítico debido a la falta de aceptación de los maestros. Algunos educadores y administradores son escépticos sobre las ventajas potenciales de un concepto o programa supuestamente nuevo debido a modas educativas pasadas. Los profesores no solo deben identificar las IM, sino que también deben tener experiencia personal con sus beneficios. Cuando los instructores entienden cómo las IM pueden ayudar a sus alumnos, ciertamente las adoptan. De manera similar, para que los niños hagan la transición del aprendizaje tradicional a la aceptación de las IM, los maestros deben brindarles orientación y apoyo.

Este estudio está en consonancia con nuestro estudio anterior (Ribeiro Daquila, 2014) que utilizó la danza para enseñar pronunciación y química.

Utilizamos la música como punto de entrada, es decir, la música para aprender y comprender contenidos académicos (Gardner, 1983); Sin embargo, las escuelas y los responsables políticos deben implementar clases de música con profesionales que puedan proporcionar y evaluar el crecimiento musical. Según Mills, S. (2001) no se ha encontrado ni siquiera una sola evaluación del crecimiento musical en la literatura de las IM desde su fundación hasta 1999. Por lo tanto, nuestro estudio es crucial para llenar este vacío en la literatura.

En cuanto a la inteligencia musical, la literatura revela su importancia en diferentes áreas de actuación: como la musicoterapia con pacientes de Alzheimer y otros tipos de demencia (Moreira et al., 2018), para una mejor calidad de vida tras un ictus (Magee et al. , 2017), para paliar la depresión y mejorar los problemas generales de conducta, además de mejorar el bienestar emocional y la calidad de vida, aliviando la ansiedad (Wouden et al., 2018); en el área educativa revela una mejora en pronunciación, química y gramática (Ribeiro Daquila, 2014, 2021,2023).

Este estudio presenta algunas limitaciones, así como sugerencias para mejorar en futuras investigaciones. La primera restricción se refiere al número de participantes en la capacitación. Es posible que tener veinte participantes en cada grupo no sea suficiente para probar la homogeneidad. En estudios futuros, un aumento en el número de participantes indudablemente aumentaría la solidez de los resultados y, por lo tanto, la capacidad de generalizar los hallazgos del estudio con mayor precisión. Otra sugerencia sería aplicar un entrenamiento similar a otras inteligencias como la naturalista, matemática e inter e intrapersonal y comprobar si se obtienen resultados similares. Otra sugerencia para futuros trabajos sería el análisis de un grupo experimental de informantes que no tengan inclinación por la inteligencia en cuestión, es decir, si el foco es la inteligencia musical, que los informantes no tengan propensiones por la música. Si dicho trabajo aún presenta resultados superiores en el grupo experimental, podremos verificar el efecto que la inteligencia analizada en dicho trabajo tendría sobre los individuos independientemente de sus propensiones a la inteligencia en cuestión. Un postest 3 aplicado seis meses después del postest 2 nos ayudaría a medir la duración y cualidad de las diferencias entre los grupos experimentales y control.

El presente estudio y aquellos que seguirán son un inicio necesario de una línea de investigación que no solamente demuestre el fuerte vínculo que existe entre las Inteligencias Múltiples y el aprendizaje, sino también la influencia de otros factores que faciliten este último. En este sentido, también deberían de ser analizadas las habilidades cognitivas y atributos personales de los alumnos. En resumen, este estudio supone un segundo paso a lo que esperamos que sea una extensa línea de investigación sobre Inteligencias Múltiples, enseñanza y aprendizaje.

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IX. APPENDIX

Part I Questionnaires for High School Students and Alumni

A. High school students' questionnaire

High school sort:

☐ **private**

☐ **public (state, free of charge)**

school year: _____

gender: ☐ **male** ☐ **female**

occupation: ……..

Would you rather have this questionnaire in English or in Emirati Arabic? ……..

1. Do you have any subjects in English? (For instance: mathematics, PE, chemistry)

Yes ☐ No ☐

1.b. If so, which subjects are in English? If not, proceed to the second question.

…….

1.c. Is it harder to understand the subject as the instructions are in English?

…….

1.d. What percentage of the subjects in English can you understand?

____80 – 100% ____40 – 60%

____60 – 80% ____less than 40%

2. Do your instructors make an effort to assist you by using in the lessons choreograph, drama, games, creative writings, singing and workshops or is it just book-centered (the instructors rely exclusively on the textbook)?

…….

3. In case your teachers try to assist you using dance, songs drama, games, workshops, do you enjoy this practice?

……

Tell us why you appreciate it or not.

……

4. Do you like dancing, or do any sports, or play any instruments?

……

5. If that is so, have your instructors ever applied your interests in sports, dancing, music, or other activities to motivate you in the classroom?

……

6. In the event that you have any hobbies, would it be a good idea to study hard subjects through your hobbies (such as games, dancing, literature, playing an instrument)?

……

7. Do you believe that your marks (grades) are mostly determined by your tests, or are you subject to daily evaluations?

……

8. Do you think the assessment (evaluation) system is good?

……

9. Are all of your lessons in the classroom, or do you occasionally attend lessons somewhere else, like at a museum, park or a computer lab?

……

10. Would you enjoy having (more) lessons elsewhere different from the classroom? (In science fairs, parks, zoo)

……

Why (not)?

……

11. Do you think your assignments (homework) are interesting?

……

12. Do you often do your assignments in groups or alone?

……

13. What sources do you use to do your assignments? (The Internet, books, magazines, Apps textbooks, television, interviews)

…….

14. Do your instructors check your assignments?

…….

15. Do these assignments have an influence on your mark?

…….

16. Do you think the non-Arabic speakers from other schools learn enough Arabic to converse in Arabic?

…….

17. Would you appreciate if schools for the expats had more hours of Arabic so that they might be able to better integrate in the Arab culture?

……

18. Regarding your English lessons, are your teachers English native speakers ?

…….

19. Were you taught phonetics (pronunciation) at school?

…… sure, the instructor taught us the correct pronunciation of words, how to articulate each different sound.

….. Yes, the instructor corrected our pronunciation if we mispronounced a word.

…… We were sometimes corrected whenever we mispronounced.

…… We were never corrected when we mispronounced words.

Other activities concerning pronunciation ……

20. How many hours of MSA do you have a week? …….

20.a. Do you believe these hours are sufficient? …….

21. How many hours of English lessons do you have weekly? ……

21. a. Do you believe these hours are sufficient? ……

22. What was your age when you began with English lessons? …….

B. Questionnaire for respondents aged 38 to 50.

Sort of secondary education system you graduated from (when you were around 18 y.o.):

☐ **private high school**

☐ **public /state high school (free of charge)**

gender: ☐ **male** ☐ **female**

profession: …….

Would you rather respond to this questionnaire in English or in Emirati Arabic? _____

1. Did you use to have any subjects in English? (e.g.: Maths, chemistry, PE)

Yes ☐ No ☐

1.b. If so, which subjects did you have in English? If not, proceed to the second question.

…….

1.c. Was it harder to understand the subject because the instructions were in English?

…….

1.d. What percentage did you understand the classes in English?

___80 – 100% ___40 – 60%

___60 – 80% ___less than 40%

2. Did your instructors make an effort to assist you by using in the lessons singing, games, choreography, creative writings, and workshops or is it just book-centered (the instructors rely exclusively on the textbook)?

…….

3. If your instructor tried to assist you by using singing, drama, games, choreography workshops, did you enjoy it?

…….

Tell us why you enjoyed it or not.

…….

4. Do you do any sports? Do you enjoy dancing? Do you play any instruments?

……

5. If so, have your instructors ever used your sport, choreography, music or hobbies to motivate you in the classroom?

……

6. In the event you have any hobbies (sports, dance, singing, playing an instrument), would you have enjoyed having learnt hard subjects through these hobbies?

……

7. Do you believe that your grades (marks) were mostly reflected on your exams or did your instructors assess you every day?

……

8. Were you happy with the evaluation system?

……

9. Were all of your lessons in the classroom, or do you occasionally attend lessons somewhere else, like at a museum, park, or a computer lab?

……

10. Would you have enjoyed having had (more) lessons elsewhere, but in the classroom? (In museums, parks, zoo)

……

Why?

……

11. Were your assignments exciting or boring?

……

12. Did you often do your assignments in groups or on your own?

……

13. Which were your sources to do your homework (HW)? (Books, the Internet, magazines, Apps, television, interviews)

……

14. Did your instructors check your HW?

……

15. Did your HW have an effect on your mark?

……

16. Do you believe the expats in the UAE learn enough Arabic at school to keep a conversation in Arabic?

……

17. Do you believe the schools for the expats should offer more classes of Arabic in order to be more integrated in the Arab world?

……

18. Were your English instructors in your English lessons native speakers?

……

19. Were you taught phonetics at school (the correct pronunciation of words)?

___sure, our instructor-s taught us the correct pronunciation of words, how to articulate each different sound.

____yes, the instructor corrected our pronunciation whenever we mispronounced words.

____our instructor sometimes corrected our pronunciation.

___ our instructor never corrected our pronunciation.

Other exercises regarding pronunciation ……

20. How many hours a week did you have of MSA?

20. a. Do you believe these hours were sufficient?

21. How many hours did you receive of English lessons weekly?

21. a. Were these hours sufficient?

22. What was your age you when you began receiving English lessons?

(**Segment II, questions only for the alumni**)

23. What types of schools were typical at that time? Were these schools free of charge or private. What degree of education did they offer?

……

24. How high was the rate of illiteracy while you were in school?

……..

25. Were girls encouraged to go to school? Why (not)?

……..

26. What types of issues did the majority of learners face at that time?

……..

27. What methods of discipline did the instructors use back then?

……

28. What has significantly changed in the Emirati education system, in your opinion and experience?

……

Appendix C. Questionnaire to check participants' proclivities for music:

1. Do you often listen to music?

Yes, daily. ……..

Yes, between five to six days weekly. ……

Yes, three to four days per week. ……

Yes, one or two days weekly. ……

No, never or rarely. ……

2. How important is music for you?

……

3. Whenever you are listening to music, do you enjoy singing along?

……

4. Do you think that music relaxes you?

……

5. Is music able to enhance your mood ? I mean, can you feel happier / more inspired when you are listening to music?

…….

6. Do you play any instruments?

…. yes …. no

If yes, which instrument do you play?

……..

And how long have you been playing this instrument?

……..

7. Are your parents or siblings musicians or do they play any instruments?

……

If yes, which instruments do they play?

……

C.2) Questionnaire after training for experimental group:

1. Were you more excited to learn pronunciation and prepositions with the aid of music?

….. yes ….. No

Why?

……

2. According to Howard Gardner, there are 8 intelligences:

bodily-kinesthetic *mathematical*

interpersonal *intrapersonal*

Linguistic *musical*

Naturalist *spatial*

Is musical an important intelligence?

….. sure ….. no ….. I am not sure

How come?

……

3. Circle on the above list the two most important intelligences for you.

4. Do you think musical activities should be part of regular classes in the Emirates?

…… sure ….. no ……. I am not sure

How come?

……

PART II

English & Arabic prepositions and phonetics pre-tests, post-test, and trainings for both control and exp. groups

D. PRE-TEST AND POST-TESTS I AND II: PREPOSITIONS (Arabic to English; respondents did not have the translation nor the colored prepositions. The prepositions in **green** mean that the preposition is present in just one of either languages)

Please, translate the following sentences into English:

1. **وين بكون سائر؟** (Where will you go?)

_____

2. **أمج قالت لي احط الشربت داخل.** (Your mother told me to put the sherbet inside)

_____

3. **انتهي من العمل في 8.** (I finish work at 8)

_____

4. ترومين تشوفيها في الصورة. (You can see her in the photograph)

_____

5. ال تروحين مكان. (don't go anywhere)

_____

6. هو متزوج من ماريا. (He is married to her)

_____

7. جان سرت وياها بعد أحسن. (Had you gone with her too, better!)

_____

8. تعرف أمي شو سوت فيني من عرفت سالفت السيكل؟ (Do you know what my mother did when she knew the issue about the bike?)

_____

9. بشوفك في إجازة نهاية ألسبوع. (See you on / at the weekend)

_____

10. اشوفك في أول من ديسمبر. (See you on December 1st.)

_____

11. بشوفك في ديسمبر. (I will see you in December.)

_____

12. انا شفته في التلفزيون)I saw it on TV.(

13. انا شفته في يوتيوب. (I saw it on YouTube.)

---

14. من زمان ما شفتك (long time no see.)

---

15. أنا طالع اجازة (I am on vacation.)

---

16. من زمان وأنا أبا هالشي (I've been wanting this for a long time.)

---

17. اتريبني (wait for me)

---

18. شو رايك نسير بالمترو؟ (what is your opinion about going by metro?)

---

19. هالجينزات عليها خصم (These jeans are on sale.)

---

20. ساكن على شارع الشيخ زايد 51 (I live at 51 Sayed road.)

---

21. ساكن في برج على شارع الخير (I live in a tower on / in Alkhair street.)

---

22. سويت هذا بروحي. (I did it by myself)

E. Pre-test and post-tests I and II: Prepositions part II

Fill out the sentences using the appropriate preposition **if necessary** (with, from, to, since, on, in, at, about, for, by).

1. I live ___ a farm.

2. Pat is __ an island.

3. Let's have a barbecue ___ Independence Day.

4. I will see you ___ Christmas.

5. Come to my office ___ 234 Oxford street, first floor.

6. I am __ the bus now. I will call you later.

7. Buy everything which is ___ this list.

8. Max is __ the phone now.

9. Email me ___ alramsa@email.com.

10. This shirt comes ___ four different colors. (to indicate a shape, color or size)

11. You can pass the exam ___ preparing for it.

12. Can we go __ metro?

13. Patrick visits us ___ spring.

14. She has been living ____ London since 2007.

15. I am sure she did it ___ mistake.

16. You should send these books ___ mail.

17. You can pay ___ credit card or cash.

18. I met Sheila ___ chance in the shopping mall.

19. Hamlet was written ___ Shakespeare.

20. ___ the end of the month.

21. Stay ___ my side and don't move, please.

22. I hate it when my mom yells ___ me.

23. You have to finish the report ___ 5 pm. (that is, no later than 5 pm)

24. His house is ____ the lake. (that is, near the lake).

25. I have English classes ___ the morning.

26. We always go out ___ night.

27. Are you laughing ___ me?

28. Mike is really good ___ playing the guitar.

29. The bag is ___ the car.

30. I forgot my wallet ___ in the taxi.

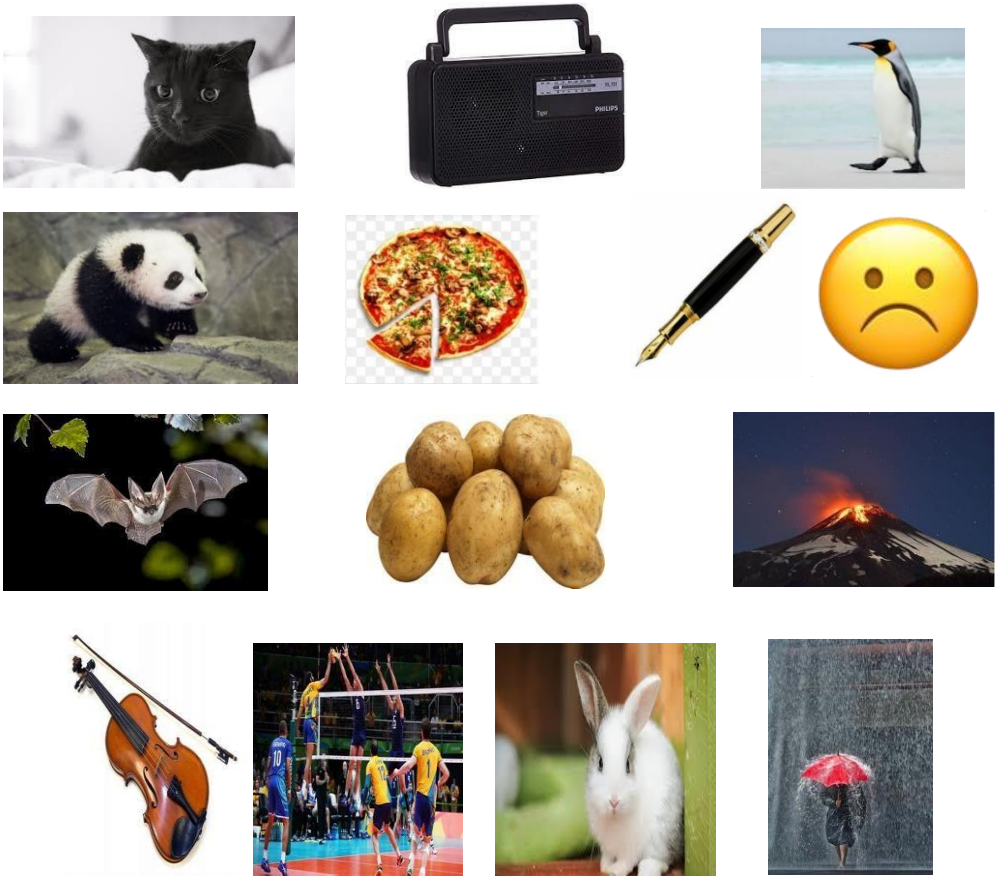
F. Pronunciation pre-test

Section 1. Look at these words and then say them out loud, please:

sat	**rev**	**peep**	**mat**
pave	**deep**	**vamp**	**rude**
ask	**rat**	**vet**	**pat**
pack	**meet**	**rave**	**popcorn**
Zak	**river**	**very**	**review**
ram	**veggie**		

(The analyzed sounds will be taken from the images below as well)

Section 2. Name the following animals, food and items in English (you may speak freely, create sentences, formulate questions, e.g.: If you see a cat in the photo, you may say: "Wellthere is a black cat", or "My brother has a cat"; alternatively you can ask: "Are you afraid of black cats?"



G) Pronunciation training part 1 (input and practice)

/æ/

sat

mat

ask

pack

Zak

ram

/v/

vamp

very

volley

review

veggie

vet

/p/

panda

pat

pea

popcorn

peep

pave

/ r/

rat

rap

rude

rev

river

rave

rabbit

H) Pronunciation training part 2 – song (practice)

(Exp. group will have the very same lyrics with which they will sing along and drill at once)

Bæd bæd bæd bæd boy
You make me feel so good
You naughty

Bæd bæd bæd bæd boy
You make me feel so good
Knew you would

Pæt has a boy
And he has a væn
He picks Pæt at night
And the væn revs, revs, revs, revs, revs up

Bæd bæd bæd bæd boy
You make me feel so good
You naughty

Bæd bæd bæd bæd boy
You make me feel so good
Knew you would

He picks up violets

and plays the violin

Oh! Very very nice!
And the væn revs, revs, revs, revs, revs up

Boys will be boys
bæd bæd boy
Boys will be boys
bæd bæd boy

Bæd bæd bæd bæd boy
You make me feel so good
You naughty

Bæd bæd bæd bæd boy
You make me feel so good
Knew you would
Boys will be boys

bæd bæd boy
Boys will be boys

bæd bæd boy

I) **Training Preposition – Part 1** (both groups were explained how to use the following prepositions and each session started by reading the list below)

We use **on** for dates and for holidays that last just one day:

On Independence Day / **on** Halloween / **on** Saint Patrick's Day

My birthday is **on** the 22nd of March.

These shirts are **on** sale.

For big means of transport on which you can walk.

I am **on** the bus, **on** the train, **on** the ship.

For all the social media: On YouTube, on Instagram, on Facebook.

For the expressions **on** TV, **on** the radio and **on** the phone.

We use **at** before the number of an establishment (houses, clinic, pharmacy) + street name.

The supermarket is **at** 32 Cambridge Street.

I live **at** 523 Oxford Road.

I never go out **at** night.

Before holidays that last longer than one day:

I will visit you **at** Christmas. We went to Malaga **at** Easter.

With the verbs yell and laugh at someone:

He yells **at** you. He laughs **at** you.

With the expression be good **at**: Paul is good **at** singing.

We use **in** with parts of the day **in** the morning, **in** the afternoon, and **in** the evening.

with months: I was born **in** April. I will see you **in** May.

With years: He was born **in** 2001.

With small vehicles in which you cannot stand up: I am **in** the car, **in** the taxi.

At the weekEND **in** the UK, UK

On the WEEKend …**in** the US A (oh uoh uoh…)

At the weekEND **in** the UK yeah

On the Street **in** the US (you're so fine 2:15)

In the Street: **in** the UK

But AT 30 Deira Street, at 30 Deira street, here in Dubai.

On the **WEEK**end in, in the USA (2:36)

At the weekEND **in** the UK, UK … (fade out)

The Karaoke version of this song can be found online:

https://www.youtube.com/watch?v=0_yVbr6kLhw

J. Words in English when speaking Emirati Arabic

1. Do you use the following words in English **when you are speaking Arabic with other Emiratis or Arabic speakers? If so, how often do you use them?**

	Always	almost always	sometimes	rarely	never (leave it blank)
1. glass قلاص	☐	☐	☐	☐	
2. good luck	☐	☐	☐	☐	
3. USB (pen drive بن درايف)	☐	☐	☐	☐	
4. charger جارج	☐	☐	☐	☐	
5. already	☐	☐	☐	☐	
6. Online أونلاين	☐	☐	☐	☐	
7. yes	☐	☐	☐	☐	
8. Same سيم	☐	☐	☐	☐	
9. to cancel	☐	☐	☐	☐	
10. to check	☐	☐	☐	☐	
11. download داونلود	☐	☐	☐	☐	

We use **by** to describe how you travel somewhere: I went **by** car, **by** bus, **by** bike, **by** plane…

We use by to mean "near". She lives **by** the train station. Her house is **by** the lake.

The means we pay something: We pay **by** credit card pay **by** check, but we pay **in** cash (this is not he means but the money itself)

To express 'how to do something': **by** + -ing form to describe how to do something:

By pressing this button, you turn on the alarm system. Then **by** entering the code 1256, you can switch it off.

To express that you do something without anyone else's help, or alone:

I made the cake **by** myself.

He came all **by** himself.

In the expressions:

By mistake and **by** chance.

I) **Training Preposition – Part 2** (both experimental and control groups will have the following text; however, the experimental group will sing along as they drill)

On sale, **on** a farm, **on** the list…**on** an island and **on** vacation.

On the phone, **on** the radio and **on** TV: information

on YouTube **on** WhatsApp. **On** Mon**DAY**, **on** the 1st of March. **On** the 2nd of January, **on** the third of January but **in** February.

On the WEEKend in, in the USA (like a virgin)

At the weekEND **IN** the UK, UK

On the Street in the USA (gonna give you… 1:09)

In the Street **in** the UK

But **AT** 30 Deira Street, is that ok?

By the lake, **In** July, **on** a bus here **in** Dubai

At seven o' clooooooock,

yeah, I'm good **at** walking **in** this block

On the WEEKend **in, in** the USA (1:43)

12. business بزنس	☐	☐	☐	☐
13. Milk shake ميلك شيك	☐	☐	☐	☐
14. Coat bayd كوت أبيض	☐	☐	☐	☐
15. Class كأس	☐	☐	☐	☐
16. Free فري	☐	☐	☐	☐
17. Password باسورد	☐	☐	☐	☐
18. Wi-Fi واي فاي	☐	☐	☐	☐
19. Gym جيم	☐	☐	☐	☐
20. Lift ليفت	☐	☐	☐	☐

2. Other words that come to your mind:

_____

3. Is there any word from the list above that you do not know how to say in Standard Arabic?

_____

3. When you message your friends in Arabic, do you prefer using Arabic script, Arabizy or English?

_____

4. How are the following gadgets called in Arabic?