

PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA

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Department of English

***The Implementation of English as a Medium of Instruction in
Scientific faculty: Case Study of First-Year Students and
Teachers in the departments of science at Tlemcen University***

*This Extended Essay is Submitted to the Department of
English as a Partial Fulfillment of the Requirements of the
Master's Degree: Language studies*

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DECLARATION OF ORIGINALITY

We, Miss. Bouhafis Nada Ahlem and Bouziane Chaimaa hereby declare that this submitted work is our original work and has not previously been submitted to any institution or university for a degree. we also declare that a list of references is provided forward indicating all the sources of the cited and quoted information. We also certify that the present work contains no plagiarism and is the result of our investigation, except where otherwise stated. This work was approved and completed at the Abou Bakr Belkaid University of Tlemcen.

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DEDICATION I

In the Name of Allah, the most Merciful, The Most Passionate

This dissertation is dedicated to:

***My parents** have taught me to fight and never to give up.*

*To my dearest **brother** and **sister***

To all my family who have a special place in my heart

*To my dearest friend who always stands with me, thanks for being
sympathetic and kind to me.*

To myself

Bouhafs Nada Ahlem

DEDICATION II

I dedicate this work to Almighty God, thank you for your guidance, strength; power of mind, protection, and for giving us a healthy life.

*To The light of my eyes, the memory of my dear **father**, "رحمه الله" Fate did not leave us time to enjoy this moment together.*

*To the Queen of hearts, dear **mother**, for her endless love.*

Thank you for your sacrifice to help me move forward in life.

*To my dear **brother** and **sisters**.*

*To my dear **friends** and **thesis partner** for their collaboration and help in completing this work together. I will always be grateful for all the support and time we spent together.*

To myself.

Bouziane Chaimaa

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Abstract

This work aims to investigate the students and the teachers' attitudes toward using English as a medium of instruction in scientific subjects in Algerian higher education. To achieve this aim, the present research adopted both quantitative and qualitative methods. To collect information for the objective of the study, a questionnaire was organized for one hundred and fifty (150) first-year students from four departments (Material Science, Technical Science, Mathematics, Computer Science “Informatique”) in the faculty of science at Tlemcen university in addition to an interview that was administered to nine (9) teachers, two (2) teachers from each department and one (1) from the English department. The analysis of the findings reports that both students and teachers are aware of the significant role of English as a medium of instruction, they declare a positive attitude toward the use of English as a learning and teaching tool in the scientific field. Even though students argue that they prefer French because it is their first foreign language and it is a part of their dialect, in addition to their low level. Based on these results, the current study offers some strategies for learners ,and educators to improve language proficiency and the implementation of English as a medium of instruction.

Keywords: Students, teachers, English, French.

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List of Acronyms:

AA: Algerian Arabic

BMD: Bachelor Master Doctoral

CEFR: Common European Framework of Reference

CM: Code-Mixing

CNRSE: the National Commission for the Reform of the Educational System

CS: Code-Switching

EFL: English as a Foreign Language

EMI: English as a Medium of Instruction

ESP: English for Specific Purposes

H: High

INF: Informatique

L: Low

LMD: Licence Master Doctoral

LPP: Language Policy and Planning

MI: Mathematics and ICT's

MoFA: Ministry of Foreign Affairs

MSA: Modern Standard Arabic

SM: Material Sciences

ST: Technical Sciences

General Introduction:

Language is a key factor in the development of research and innovation. It shapes our thinking and communication and influences the path of our research. As we become more connected globally, the importance of language in scientific and academic communities only increases. As the primary language for scientific communication, English has enabled collaborations and exchange of knowledge globally. There are a large number of universities that have started teaching academic subjects using English as a medium of instruction. One of these universities is the University of Tlemcen, which serves as a representative of the broader global trends in scientific communication and is influenced by various linguistic and cultural backgrounds. This major linguistic change aims to help students exchange their knowledge, attracting students from around the world. Additionally, it will allow these students to work with researchers and gain global insights into various fields. It also offers good opportunities worldwide for their careers.

Recently, Algeria has utilized English in its universities especially scientific departments as a teaching process, and it applied them over all modules replacing French. However, this change may be difficult for teachers to manage as well as learners. Teaching scientific courses or subjects in English instead of French can make it very hard for teachers to deliver the message because they studied in French and have been teaching in French for years and this will make it tough for students as well to study and comprehend the content that they learn or receive. Thus, this issue can affect the quality of teaching and students performance if not handled. The decision to focus on the scientific Departments (Computer Sciences Informatique (INF), Material Sciences (SM), Technical Sciences (ST), and Mathematics (MI)) at the University of Tlemcen is due to the importance of scientific fields in modern science and cultural heritage of the University of Tlemcen. This research aims to examine the impact of English as the primary

language of communication and as a lingua franca of science in this specific department in terms of its academic, research, and collaboration activities. It also seeks to understand the challenges and opportunities that emerge in a multi-lingual academic environment.

- The present study aims to achieve the following objectives:

1. To assess the use of English language implementation within the academic activities of the Scientific Departments at the Abou Bark Belkaid University of Tlemcen.
2. To identify the factors influencing the utilization of English in scientific discourse, considering the linguistic and cultural context of the university.
3. To examine the impact of English language proficiency on academic achievements and collaborative efforts within the departments.
4. To propose strategies for enhancing the integration of English in scientific education and research within the University of Tlemcen.

This dissertation contributes to the broader conversation on language in science and academia by offering a detailed exploration of English language implementation in a specific academic setting. This research attempts to investigate the difficulties that the teachers and students faced in studying and teaching the field of science in English instead of French, in addition to their opinions and attitudes towards this process. Therefore, the study attempts to provide some solutions to help teachers and students overcome the difficulties. Throughout this study, three major questions are raised :

- 1- What are students' and teachers' attitudes and perceptions toward the use of English as a medium of instruction in the scientific departments?

2- What are the challenges faced by the students and teachers in implementing English as the language of instruction in their courses?

3- What strategies can be adopted to improve language skills and the effective implementation of English?

This raises three hypotheses:

1- Students and teachers in scientific departments may be dissatisfied with the way of teaching

2- The shift from French to English and the lack of appropriate teaching materials in English may be the major challenges that they face

3- providing English language training for students and teachers and practice may improve language skills and the implementation of English

To investigate the research hypotheses and come out with a relevant conclusion, the research has been designed to be an exploratory case study research with scientific learners and teachers of Abou Bakr Belkaid Tlemcen University. The study is based on mixed-method research in which collected data is analyzed both quantitatively and qualitatively. Furthermore, different resources were relied on to gather as much information as possible: a questionnaire for the learners and an interview for teachers. Thus, the sample was chosen randomly from the departments. To proceed with this case study research, this work is divided into two chapters, the first one provides the theoretical background for the investigated issue. It seeks to show the sociolinguistic situation in Algeria, describes of English language as a language of science and as it is related to learning and teaching, in addition, to describes the Algerian higher educational system in which they order to use English and its application in scientific departments at case under study (Scientific Departments of Abou Bakr Belkaid University).

The second chapter is divided into two sections, the first one deals with research design and methodology describing the data collection procedure and the research instrument. The second one deals with the analysis and interpretation of data. In addition to answering the research question by confirming or disconfirming the research hypotheses and research results. Therefore, providing some suggestions to make the learning and teaching process more effective, taking into consideration the opinions and attitudes of learners as well as teachers in addition to some solutions and strategies to overcome the challenges that they face

Chapter One: Literature Review

Introduction:

Algeria is a linguistically complex and prosperous country, reflecting its complicated historical and cultural legacy. The sociolinguistic landscape of Algeria is characterized by an intricate interplay of multiple languages, linguistic phenomena, and educational challenges. Thus, English become the lingua franca for non-native speakers to communicate and interact with each other. English's status as an international language for technology, business, and science research has also encouraged policymakers in the higher education sector to adopt English as the language of instruction. Expanding the use of English as a language of instruction (EMI) is also seen as the most effective way of internationalizing higher education.

This chapter is about the Algerian linguistic situation, the crucial role of language, and the implications of this sociolinguistic landscape for higher education. It will explore issues related to the English language as a means of instruction.

1.1. Definition of language:

Language is a method of communication used by every community. Sapir (1921:8) believed that “language is a purely human, non-instinctive method of communicating thoughts, emotions, and desires through a system of voluntarily produced sounds”. Sapir's definition states that language is primarily associated only with humans and represents the sound system produced by humans to communicate.

Language serves as a kind of human communication. Voices form the majority of the sounds. It is arbitrary, symbolic, systematic, and articulatory. From this definition, language is the most effective means of communication. It also illustrates the basic ideas of language and how human language is formed. It can refer to

phrases and words used by individuals from the same geographic region or cultural tradition.

In education, language is the medium used by teachers to communicate the subject matter during the learning process. Language helps students to comprehend what the teacher says. Language also helps students overcome the challenges of learning. It is therefore very beneficial if people are familiar with the language used in the learning process. Excellent language patterns improve the effectiveness and efficiency of the learning process.

Algeria is characterized by a variety of sociolinguistics, such as multilingualism, bilingualism, and code-switching, due to the various languages spoken in the country.

1.1.1. Definition of Multilingualism:

Multilingualism can be defined as “the ability of societies, institutions, groups, and individuals to engage, regularly, with more than one language in their day-to-day lives” (European Commission, 2007: 6)

Research on multilingualism, which has been studied from a variety of approaches in applied linguistics, has significantly increased recently. Multilingualism has been researched from a societal perspective about globalization, population mobility, and the effects of new communication technology; that being said, the phenomenon is not new. Today, multilingualism is a highly widespread occurrence on a global scale. Given the approximately 200 separate countries and the over 7,000 languages spoken worldwide, this is to be expected (Lewis, 2009:).

Multilingual communities are communities that use multiple languages in different communication situations, as is the case with Algerians, who use Algerian dialects, classical Arabic, French as a first foreign language, and English as a

second foreign language. The term "multilingualism", is used to situations of contact between speech repertoires and multiple languages or varieties that occur in social communication. The linguistic situation in Algeria indicates the presence of multilingualism, which provides speakers who typically know two or more languages with the ability to use one. The opportunity to speak one or another language or to alternate between two languages means being able to speak multiple languages every day, which is a unique ability every new experience will enrich this ability, and each new language has its learning skills that can rely on based on the situations and needs.

1.1.2 Definition of Bilingualism:

Bilingualism is one of the key issues in the field of the sociology of language and is frequently discussed by most linguists, sociologists, and policymakers. Bilingualism is a broad term that refers to the provision of two languages in an education system. The term refers to a simple name for a sophisticated phenomenon (Cazden and Snow, 1990: 9) in which many variables, including the student's native language, the language of formal education, and the linguistics of the target curriculum, will determine the nature of the use of bilingual education. There are various ways to interpret the term bilingualism. On the one hand, bilingualism simply means certain features of both languages, on the other hand, it means a higher level of proficiency in both languages (Modares, 2004, p: 31-41). Scholars defined bilingualism along a continuum; Macnamara (1967a, p:58-77) takes the most extreme stance, Describing a bilingual as an individual who has a basic or minimum level of ability in at least one of the four language abilities: speaking, reading, writing, and understanding spoken language in a foreign language. Bloomfield (1935: 56), referenced by Hamers and Blanc (2000: 6), states that a multilingual individual should have "native-like mastery of two languages."

Bilingualism is a linguistic phenomenon that arises from the movement and interaction of people from different linguistic backgrounds. It is a result of the contact that occurs between groups who acquire different languages. There are diverse factors that contribute to the spread of bilingualism, and it is important to comprehend these factors. One of the significant contributors to bilingualism is education. Children acquire their native language or mother tongue at an early age within the home environment. For instance, Algerian children grow up speaking Algerian Arabic, which is their mother tongue (native) language. As they begin their formal education, they are introduced to Modern Standard Arabic in the early years of schooling, and later on, they learn French as a foreign language.

Another factor that fosters bilingualism is foreign investment and trade. These activities support the movement of people from rural regions, where a single language variety or dialect is predominantly used, to urban areas where a different language is spoken. People from rural areas are gradually drawn to larger cities due to the prospect of better living conditions. Consequently, the linguistic impact is an increase in bilingualism, especially if business transactions are conducted in a language different from the native tongue. Thus people's shifting among other countries, whether for economic reasons, education, or other purposes, also has a big role in the increase of bilingualism. When individuals from different linguistic backgrounds come into contact, they may need to acquire proficiency in multiple languages to facilitate communication and integration.

In summary, bilingualism is a linguistic phenomenon driven by various factors, including education, foreign investment, trade, and the movement of people across regions and borders. It is a natural outcome of the interaction between different linguistic communities and the need for effective communication in diverse environments.

After 132 years of French colonization in Algeria, bilingualism was a natural outcome of the circumstances. Mouhadjer writes that « Algerian bilingualism is a special one. Bilingualism in Algeria is the result of educational strategy since both Arabic and French are learned at primary school. It is not a homogeneous one» (as cited in Meziani, 2018, p. 30). Furthermore, he stated that Algerian bilingualism is "subtractive because Arabic is gradually replacing French in many domains: education, politics, and administration" (2004).

In Algeria, Arabic (the official language) is the language of education and administration. French is also the language of education. The majority of Algerians are fluent in French due to the period of French rule (Fezzioui, 2013). Miliani (2001: 17) argues that French "is a linguistic, cultural, social, economic and technical tool " (qt in fezzioui, 2013: 41). After independence, French became a part of the Algerian national language. English (a second foreign language) is also taught in education, beginning in middle school. However, English is not used in everyday communication. Therefore, given that Arabic, Berber, and French are the three languages used for everyday communication, it can be said that Algerians are bilinguals or multilingual.

Bilingualism and multilingualism result in switching from one code to another, or mixing codes in very short utterances to create new codes, which is called code-switching.

1.1.3. Definition of Code-switching:

Code-switching (CS) has been studied since the 1950s. Initially, there was a lot of negative literature on the subject. However, later research showed that most researchers agree that CS plays an important part in bilingualism, rather than being an isolated, stigmatized issue:

The term Code-Switching refers to the use of elements from two languages in the same utterance or the same stretch of conversation (Paradis, Genesee, & Carago, 2011.p.88).

Changes in language usage can be symptomatic of code-switching. Codes can represent different switching languages or different dialects and can be mixed whether it's in the same context, the same phrase, etc. Code-switching serves as a tool for teacher-student interaction and learning to enable effective class management.

In a multilingual society, especially for a bilingual, the language used depends on the context in which the speaker interacts with their audience. Each language is used in a specific context, for example, the language spoken at home differs from that spoken on the street or in the classroom.

Bilingual speakers can code-switch for a variety of reasons. Holmes (2008) lists some of these reasons as follows: Bilingual speakers may switch codes to keep someone out of the conversation or to keep someone in the conversation. They may also switch codes to show solidarity. Bilingual individuals often switch between languages to demonstrate their elevated social status.

In the case of Algiers, CS is one of the most common linguistic phenomena. It occurs daily at different times and places with different types of speech groups. It is the country where the most frequent change of language is Arabic–French, as the majority of Algerians speak it.

1.1.4 Definition of code-mixing:

Hudson (1999: 53) defines code mixing as “a kind of linguistic cocktail- a few words of one language, then a few words of the other, then back to the first for a few more words and so on”.

The term “code-mixing” is used to describe the practice of using more than two different languages within a single statement without changing the subject. It

involves bringing or adding small units of text (words or brief sentences) from one set of rules to another set of rules. It is often done subconsciously and often at the word level. In the case of code-mixing, the base code has its functions, while the other codes are there for the sole purpose of completing the base code. They do not have any function or independence as a code.

There are two different perspectives on code-mixing. Some linguists are in favor of distinguishing between code-switching and code-mixing and others do not. (Walwadkar, 2013: 42). When it comes to the differences between code-switching and code-mixing, CS refers to the changing of a language for various reasons, such as the speakers or the situation, whereas CM is the transfer of linguistic items from one language to another (Walwadkar, 2013: 42).

In bilingual and multilingual nations, code-switching and mixing are important linguistic aspects and well-researched speech processes. But some linguists worked very hard to explain the differences between them; Bokamba (1988), for example, defines both terms in Ayeomony (2006):

Code-switching is the mixing of words, phrases, and sentences from two distinct grammatical (sub) systems across boundaries within the same speech event. Code mixing is the embedding of various linguistic units such as affixes (bound morphemes), and words unbound morphemes, phrases, and clauses from a cooperative activity where the participants to infer what is intended must reconcile what they have with what they understand.

For Algerian communities, Meghaghi In his paper argued that the mixing and alteration of all the languages (Arabic, Berber, etc.) in some regions with the French language has become an integral part of the linguistic habits of the Algerian people (p.30). He also claimed that many people use the French language in their daily lives, either alone or in combination with the other components (MSA/AA/Tamazight), whereas MSA does not use it spontaneously. In the Arabophone region, people mix AA/MSA/French with or without need in a single

discussion. In the Berberophone region, people switch from Tamazight to French in various circumstances and sometimes mix the phrase with Arabic (MSA / AA).

1.2. Sociolinguistic Situation in Algeria :

Algeria's current linguistic situation is typified by a continuum of Arabic mixed with regional vernaculars, making it occasionally difficult to distinguish between the two. A variety of language varieties with diverse types of similarities and parallels define the linguistic spectrum. The common varieties that have been documented elsewhere pose fewer issues. These include Literary Arabic, Modern Standard Arabic, Educated Spoken Arabic, Classical Arabic, and the most widely spoken Modern Arabic Dialect. There is usually some Arabic flavor to the dialects, although French is the predominant language at the lexical level. The dialects spoken in the northwest of Algeria may also contain some Spanish, and the central and northeastern regions may have some Maltese or Italian.

According to Kerma (2018), Algeria presents a diverse and complicated linguistic landscape, where multiple language varieties coexist. In addition to Classical Arabic and Modern Standard Arabic, various forms of Colloquial Arabic and Educated Spoken Arabic are widely used. The country's linguistic diversity is further enriched by the presence of regional Berber languages and their respective dialects, such as Chawi, Mzabi, and Tergui. Moreover, the legacy of colonization has left its mark, with French and Spanish still maintaining a presence. More recently, the use of English has gained traction, particularly in domains like business, science, and technology. This mixed linguistic environment reflects Algeria's rich cultural and historical influences.

Algeria is a member of both the Arab and the Muslim world. Most of the inhabitants of the country are Arabo-phones who speak an vernacular form of

Arabic. A small part of the Berber phones speak the Berber dialect (in addition to the related standard variety, Tamazight). The French language plays an important role in Algerian society, which dates back to the colonial era. In Algeria, the Arabic dialect spoken by the majority of the population serves as the primary language for everyday communication, especially among family members. This colloquial Arabic variety, known as Algerian Arabic (AA), extends its reach beyond domestic domains, and it is also employed in various media platforms, including radio broadcasts, television programs, theatrical performances, and TV series. Algerian Arabic is primarily an oral language, with numerous regional dialects and variations existing across different ethnic groups within the country.

Similar to the other Maghreb nations, Standard Arabic and French are two highly esteemed languages that are integral to society and are evident in people's language use, though to differing degrees. Diglossia exhibits instability due to the illiteracy factor, indicating the dysfunctional role of high and low language variants

1.2.1. Diglossia :

Diglossia is considered one of the most attractive linguistic phenomena that takes the attention of the majority of linguists.

1.2.1.1 History of Diglossia :

Ferguson (1959) and Fishman (1972) are two important sociolinguists who Proposed the concept of functional differentiation of languages or language varieties to Explain language usage and choice patterns

1.2.1.2. Definition of Diglossia :

As Wardhaugh (2006) explains, the term diglossia refers to a situation in which a society's language consists of distinct codes that serve different purposes, indicating that each code is employed within specific contexts. In contrast, Trudgill (2009,

p:113) describes diglossia as follows: “a particular kind of language standardization where two distinct varieties of a language exist side by side throughout the speech community (not just in the case of a particular group of speakers, such as Scots or Blacks) and where each of the two varieties is assigned a definite social function”

Fishman (1967) proposes an extra function known as extended diglossia, while Ferguson (1959) advocates using the term diglossia to refer to classical diglossia.

The American linguist Ferguson (1959) simplified the concept of diglossia by considering that two varieties of the same language are used in a community in a complementary distribution, that is, they are used for different functions and in different contexts. Ferguson was the first linguist to coin the word "diglossia" from the French "La diglossie" with his 1959 article "Diglossia" in *Word* magazine. He defines diglossia as a linguistic situation in which two languages serve different purposes within the same language group and each has its function (Ferguson, 1959). His definition of diglossia is as follows:

A relatively stable language situation in which, in addition to the primary dialects of the language (which may include a standard or regional standards), there is a very divergent, highly codified (often grammatically more complex) superposed variety, the vehicle of a large and respected body of written literature, either of an earlier period or in another speech community, which is learned largely by formal education and used for most written and formal spoken purposes but not used by any sector of the community for ordinary conversation (cited in Wardhaugh 2006, p.89).

Ferguson is well-known for his description of classic diglossia. He was the first to identify diglossia by using high concepts in a classical style (stands for “high form”). It is a standard variety and is used officially in formal contexts, while the low “L” variant “Low Form” is used in informal contexts or the classical register of a tongue. The high variant (H) is used as a teaching tool for formal occasions, while

the low variant (L) or colloquial Arabic can be used in everyday conversations at home. (Deterding (1998b, p.18).

1.2.1.3 The Impact of Diglossia on Education :

The diglossic situation, where two varieties of the same language are used, has significant implications for the education system. According to Zughoul's analysis in 1980, the existence of diglossia in Arabic poses many linguistic challenges that have socioeconomic, psychological, and educational impacts on Arab societies. One of the major factors contributing to the widening gap between Standard Arabic and its colloquial form, in Zughoul's view, is the high rates of illiteracy prevalent in many Arab cultures. However, Maamouri (1998) offers a different perspective, arguing that the diglossic situation in schools stems from the use of colloquial varieties in both formal and informal educational settings, as well as the linguistic divide between the various spoken Arabic dialects and Modern Standard Arabic (MSA).

1.2.2. Triglossia :

When it comes to defining the term "triglossia," there seems to be a lack of consensus within the field of linguistics. The Dictionary of Linguistic Terms by Zherebylo explains, describing trilingualism (or triglossia) as the ability to communicate in three languages. However, in The European Dictionary of Linguistics and Phonetics, edited by D. Crystal, the term "triglossia" is only referenced about "diglossia," without providing a distinct definition for "trilingualism". Additionally, the Oxford Living Dictionaries, which are widely used in the English-speaking world, equate trilingualism with bilingualism, defining it as having an equal or nearly equal proficiency in three languages. Consequently, upon examining these authoritative sources, it becomes evident that modern

linguistics has yet to establish a clear and universally accepted definition for the concept of "trilingualism."

The linguistic situation in Algeria can be described as a case of triglossia, where two prestigious linguistic varieties, Standard Arabic and French, coexist alongside the low-prestige dialect used in daily life dialect. Educated speakers often complete their dialect with extensive borrowing from the resources of one or both of these prestigious languages. A small minority goes even further, engaging in code-switching, where a substantial proportion of their conversation is conducted in either pure French or pure Modern Standard Arabic.

1.3. Language Planning and Policy:

The concept of "language planning" encompasses the deliberate efforts and measures undertaken by official authorities to influence the usage and status of one or more languages within a specific speech community. This notion was articulated by the American linguist, Joshua Fishman, who defined language planning as "the authoritative allocation of resources aimed at achieving desired goals related to the status and corpus of a language, whether in pursuit of new functions for that language or in enhancing its ability to fulfill existing functions more effectively" (1987, p: 2112-2124). Fishman's definition highlights the intentional allocation of resources by governing entities to shape the role, prominence, and development of languages spoken within a particular community.

The practice of language planning arises from the profound connection between a nation and the language(s) spoken within its boundaries. Language serves as a powerful marker of identity and group affiliation for members of social and political communities. The language(s) we speak play a crucial role in shaping our sense of self and belonging. Consequently, it is widely acknowledged that every country has a language or languages that are closely tied to its national identity. This phenomenon is exemplified by the strong association between English and England,

French and France, or Spanish and Spain, where the respective languages are deeply intertwined with the cultural fabric and collective consciousness of each nation

According to Wardhaugh (2006: 354), language planning can require evaluating available resources and identifying the appropriate measures to promote language development. complicated decision-making, the allocation of diverse tasks to distinct languages or different forms of a language in a society, and the allocation of important resources.

According to Cooper (1989: 45), language planning refers to intentional endeavors to influence the actions of individuals concerning how they acquire, arrange, or utilize their language and the codes used to represent languages.

Ghoul (2013, pp. 39-40). Language Policy and Planning (LPP) refers to the intentional efforts and measures taken to influence the use, status, or function of a language, rather than fundamentally altering the language itself.

1.3.1. Activities of Language Planning and Policy:

The concept of planning is viewed as "the process of setting objectives" by scholars like Schermerhorn, Hunt, and Osborn (cited in Zaidi, 2013). In the context of language planning and policy, this process is typically organized and overseen by governmental authorities. It necessitates the consideration of various measures and dimensions. These dimensions refer to the specific language planning activities or the 'what' aspect, which pertains to the actions and measures undertaken by language planners (Ghoul, 2013, p. 42).

Language planning encompasses a set of guidelines, principles, regulations, or decisions that govern a society or community's relationship with the language(s) in use. These can take the form of written laws or unwritten norms understood through societal attitudes (Ghoul, 2013, p. 11). Language planning initiatives aim to address issues related to language use, form, or both, at the national level. The specific goals of language policy vary depending on the nation, community, or organization.

According to Nahir (1984), these goals may include purifying a language of errors or foreign elements, restoring forgotten aspects, reforming it for improved effectiveness, standardizing it for wider acceptance, facilitating its spread and increasing its domains and speakers, creating new words to adapt to changes, standardizing existing vocabulary, making technical or legal language more comprehensible, reducing bureaucratic jargon, enabling interlingual communication through translation and interpretation, and preserving the domains in which a language is used (language maintenance) (as cited in Bagui, 2012, p. 12).

1.3.2. Language Policy in Algeria :

Language policy in Algeria has undergone several changes through time from independence till now.

1.3.2.1. After Independence:

After gaining independence in 1962 after over a century of struggle, one of the critical issues Algeria faced was restoring national unity and addressing the country's cultural and linguistic situation by choosing a national language(s). Despite Algeria's cultural, ethnic, and linguistic diversity, the new leaders adopted Arabic as the only national and official language, overlooking linguistic diversity and denying status to other languages like Berber. This Arabic-centric language policy marginalized the Berber language and community for years. However, after prolonged suppression, Berber finally gained recognition - first as a national language in 2001, then as an official language side by side with Arabic in 2016, and ultimately enshrined as an "immutable" part of Algeria's national identity in 2020, alongside Islam, Arabic, and the national flag.

Reclaiming the Algerian identity after French colonization was an immense challenge, as language, a crucial component of identity, had been severely impacted. Even years after independence, French was highly valued and widely

used among the population, and education continued to be conducted in French due to a lack of teachers capable of teaching in Arabic, necessitating the government to bring in educators from other Arab countries like Palestine and Egypt. Consequently, the government at that time implemented reforms to regain the nation's identity and language. They focused primarily on the educational, cultural, and linguistic domains due to Algeria's linguistic diversity. In the 1960s, Algeria initiated the Arabization policy to promote the use of Arabic over French (Benyounes, 2017, p. 4).

1.3.2.2. The Arabization:

According to Bossut (2016, p: 10), the Arabization policy was implemented to completely replace French and promote Arabic monolingualism instead of Arabic-French bilingualism. The primary focus of the Algerian revolution at that time was to reclaim the Arabic language, as it was perceived as the language of dignity and civilization. Since the French colonizers had undermined the Arabic language, it became a symbol of liberation for Algerians in their struggle for independence. The value of the Arabic language was further elevated due to its association with the Islamic religion, and both Arabic and Islam served as strong foundations for the revolutionary movement to achieve its goals (Bossut, 2016, p. 10).

After gaining independence in July 1962, Algeria was a diverse nation comprised of various ethnic groups, including Berbers, Phoenicians, Romans, Vandals, Byzantines, Jews, Moors, Arabs, Spaniards, Ottomans, and finally, the French. In the post-independence era, the population used a mix of French, Tamazight (Berber languages), and Algerian Arabic. However, the Arabization policy implemented by the government disregarded this existing diversity, rejected any official status for other language varieties, and promoted Classical Arabic as the unifying lingua franca to align Algeria with other Arab countries (Benrabah, 2007, p. 229).

One criticism of the Arabization policy was the continued use of French in public spaces and homes. During the presidency of Houari Boumediene, the policy reinforced Algeria's Arab-Islamic identity but overlooked the country's linguistic diversity. The failure of Arabization was attributed to a lack of proper planning, scientific basis, and suitable educational materials, unlike the resources available in French. As a result, the Algerian government adopted measures to promote bilingualism and focused on reforming the education system (Benyounes, 2017, pp. 5-6). Furthermore, by 2007, the Arabization policy had achieved its objectives in elementary and secondary education, while the French maintained a prestigious status in higher education and scientific fields (Arab, 2015, p. 11).

Since the year 2000, there has been an ongoing debate within Algerian society regarding whether to maintain the status of Algeria as a monolingual country or to embrace bilingualism by recognizing both Arabic and French as official languages. In 2001, the National Commission for the Reform of the Educational System (CNRSE) proposed introducing French language instruction in the second grade of elementary school instead of the fourth grade. Additionally, the CNRSE suggested replacing Arabic with French as the language of instruction for scientific subjects in secondary schools. The aim was to teach French as a separate subject to enhance students' bilingual proficiency (Benrabah, 2007, pp. 227-228).

Both Presidents Mohammed Boudiaf (1992) and Abdelaziz Bouteflika (1999) criticized the existing educational system as being inadequate and producing generations of students who were illiterate in both Arabic and French. During his tenure, President Abdelaziz Bouteflika initiated a comprehensive overhaul of the educational system, including revisions to the curriculum, textbooks, and teacher training programs, as well as the legalization of private schools that taught in both French and Arabic (Benrabah, 2007, pp. 227-228). In 1993, a third reform allowed

elementary school students to choose between studying French or English as a foreign language, aiming to improve foreign language education.

1.4. Higher Education and University:

Defining modern higher education and a university is a complex task when considering goals, national diversifications, and institutional variations. Higher education encompasses a broader range of higher learning institutions, including universities. These institutions can be structured differently, often with universities as standalone entities and other tertiary learning institutions operating separately. From a British perspective, a university is an institution with the authority to confer its degrees and is preeminent in research activities (Allen, 1988). Higher education has a more holistic connotation, encompassing all post-secondary or tertiary institutions, while a university is a specific type of higher learning institution that awards degrees or credentials.

Modern higher education refers to a structured form of tertiary education and development. Activities and establishments within traditional academic institutions like art and humanities subjects and faculties of science and other specialized institutions in agriculture at universities. Engineering, science, and technology are distinct fields of study and practice. The concept of advanced learning also includes institutions of higher learning like universities, technical colleges, and renowned academies. Various kinds of professional schools fall under the umbrella of advanced learning.

A university represents not only an institution of higher learning but also a community of scholars and intellectuals. It is an advanced educational establishment that facilitates the intellectual development of individuals in the arts, sciences, and traditional professional disciplines while promoting high-level research activities. Moreover, a university signifies a community of individuals engaged in scholarly pursuits and research endeavors. It serves as a source of universal knowledge and

highly skilled human resources for various professions. In contrast, other higher education institutions focus on training mid-level technical and vocational professionals. Universities and these other institutions differ in their missions, goals, functions, faculty qualification requirements, student admission criteria, program durations, and the types of certifications they award (Assié-Lumumba, 2005). These differences depend on the requirements and goals of various communities.

1.4.1. Higher Education in Algeria :

Since 2004, Algeria's higher education system has been undergoing a reform known as the LMD (License-Master-Doctorate) system, which has aligned the country's degree framework with the structure implemented in Europe through the Bologna process. This reform adopts the new French model, consisting of three levels: License (Bachelor's degree after three years of study), Master (two additional years after the License), and Doctorate (three to four years after the Master's degree).

Beyond the implementation of this new system, the key objectives of the reform are as follows:

1. To provide Algerian students with university programs that are more compatible and internationally recognized.
2. To enhance flexibility for students in selecting and transferring courses and credits, thereby improving the system's effectiveness by increasing institutional autonomy and lifelong learning opportunities, which better cater to the needs and requirements of the job market (Arab, 2015).

1.4.2. The Development of Higher Education in Algeria:

In the 1960s, the Algerian higher education landscape was starkly different from its current form. During that period, Algeria had merely three institutions of higher

learning, situated in Algiers, Oran, and Constantine. The total student enrollment across these establishments was a mere 2,000, with an overwhelming majority comprising male students, who accounted for 99% of the student population. Females represented only 1% of the total students. The entire teaching staff across these three institutions numbered around 250 members. The Algerian educational system underwent a restructuring in the 1970s with the establishment of the Ministry of Higher Education and Scientific Research. This marked the first significant reform in the sector. The second major overhaul took place in 2004 and was implemented over six years until its completion in 2010. It involved a transition from the previous system, which consisted of a 4-year License (Bachelor's degree), a 2-year Magister (Master's degree), and a 3-4 year Doctorate program, to the BMD (Bachelor-Master-Doctorate) system aligned with the Bologna Process. Under this reform, the License was reduced to a 3-year Bachelor's degree in 2004, followed by the replacement of the Magister degree with a Master's degree in 2007, and the introduction of a 3-year Doctorate program in 2009. The courses were organized into three training cycles, except for studies in medical sciences (medicine, pharmacy, and dentistry). One of the primary reasons behind the LMD reform was to enable Algerian universities to better face the challenges of globalization and the internationalization of higher education.

By 2015, the Algerian higher education sector had expanded significantly, comprising 107 universities with over 1.5 million students enrolled. Algerian universities are public institutions with corporate status and financial autonomy, focusing on scientific, cultural, and professional development. The tertiary education system is tuition-free, and the government covers the costs of accommodation, food, and transportation for students across the country's 101 public universities. Access to university education requires only a "Baccalauréat" or an equivalent recognized foreign qualification.

1.4.3. The Linguistic Landscape of Algerian Education:

The implementation of policies related to higher education and scientific research falls under the authority of the respective ministry. However, the current system is known for its inability to produce graduates with skills aligned with the Algerian job market. Graduate unemployment stands at 20.3%, double the national average and significantly higher than the unemployment rate for individuals with lower educational qualifications. Algeria's higher education system faces linguistic challenges in adapting to globalization trends. While the country has opened up to plurilingualism due to factors like globalization and economic reforms since 2001 (Benrabah, 2005), the changes have been gradual. This can be attributed to the political ideologies and initiatives surrounding educational reforms involving new languages, as Baker (2003) suggests.

The linguistic landscape in Algerian higher education is complex. The mother tongue, Algerian Arabic (Darija), lacks written resources (Saadane & Habash, 2015), while Modern Standard Arabic (MSA) is taught as the primary language throughout the educational system, serving as the main language of instruction in primary and secondary education (Benrabah, 2005). However, at the university level, MSA's use is limited to humanities, social sciences, and Arabic studies.

French plays a crucial role as the medium of instruction for scientific disciplines, technical subjects, and hard sciences like engineering and medicine (Benrabah, 2005). Students aim to obtain a bachelor's degree in French to master the language (Chachou, 2013). The three cycles (Bachelor, Master, and Doctorate) are predominantly conducted in French. Other international languages such as Spanish, German, and Turkish are taught in their specific native languages.

English, as the second foreign language in Algeria, is introduced in various curricula and departments, either as a main subject in the English department or as a compulsory module for other disciplines. In contrast to many countries worldwide

where education is primarily based on the international language English, Algeria's higher education system appears to lag.

This linguistic divide between French and Arabic affects both vocational and collegiate education. Additionally, the language proficiency levels of students and instructors contribute to the system's challenges.

1.5. English in The Global World :

There is no exact definition of 'global language', but it generally means a language that is spoken and studied all over the world. Today, English is the language of the world and it can be seen that it is spoken in every country of the world. From a historical point of view, Ferguson (2006) argued that the British Empire and the increasing economic, military, and political power of the US in the latter part of the twentieth century played a significant role in the rise of English to become the most important language in the world today. He also argued that the historical influence of British colonialism, which affected various sectors of colonized societies, led to Great Britain is referred to as 'the Empire on the sun never set'. According to Ferguson, Britain's colonization of many countries in the world has created conditions conducive to the development of English as an international language.

Moreover, he claimed that The emergence of English is the result of two processes, which are 'spread by speaker migration' which means British immigrants settling in colonized areas and creating new native-speaker populations, and 'spread by macro-acquisition' which means indigenous populations that continue to use English on a social and economic basis, as stated in Brutt-Griffler (2002).

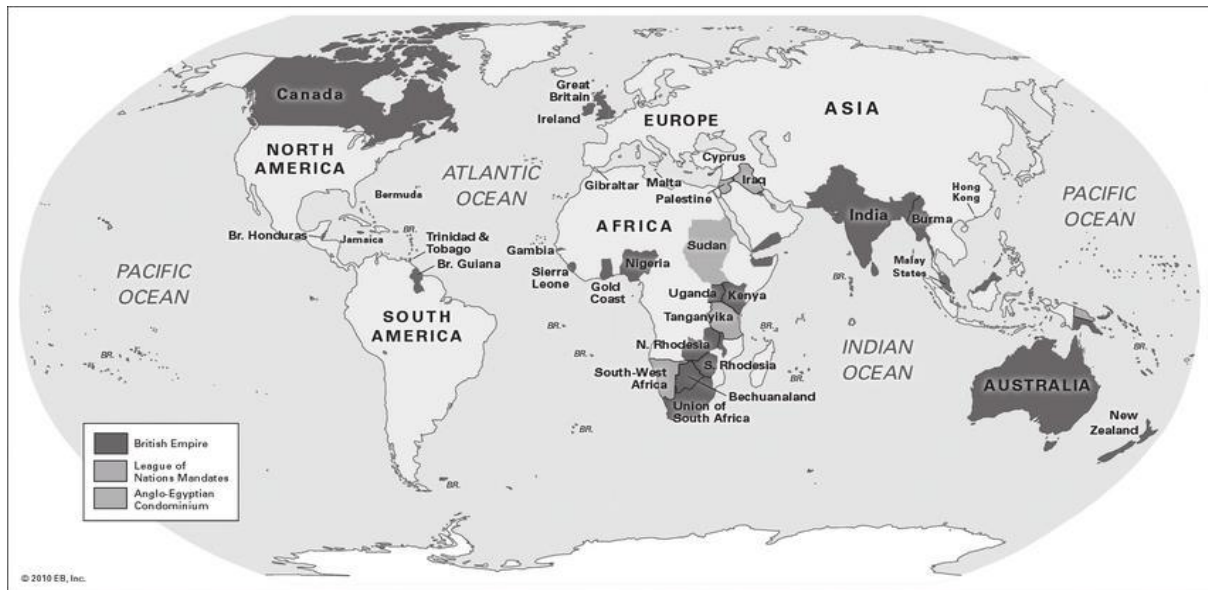


Figure 1.1: Map of the British Empire in the 1920s

Source: The Oxford History of the British Empire: Volume IV: The Twentieth Century (Brown & Louis, 1999, p. 10).

Although the language of British people was English, it has come to be used as a first language by many of the former British colonies such as the United States (USA), United Kingdom (UK), Australia (A.U.), Canada, Nigeria, South Africa, and India as a result of the attempts made by the British Empire. There are around 400 million people speak English as their first language 375 million people speak it as a second language, and over 750 million people around the world speak English as a Foreign Language (EFL). In addition, English has become the official language of many multilingual nations. However, English is the language of the British colonial countries, but it is also the language of business, trade, and commerce and the cultural sphere. There can be no doubt that English has become the ‘language of choice’ in science and technology, the language of the majority of newspapers in the world, the language of scientific research, and even the language of the tourism department.

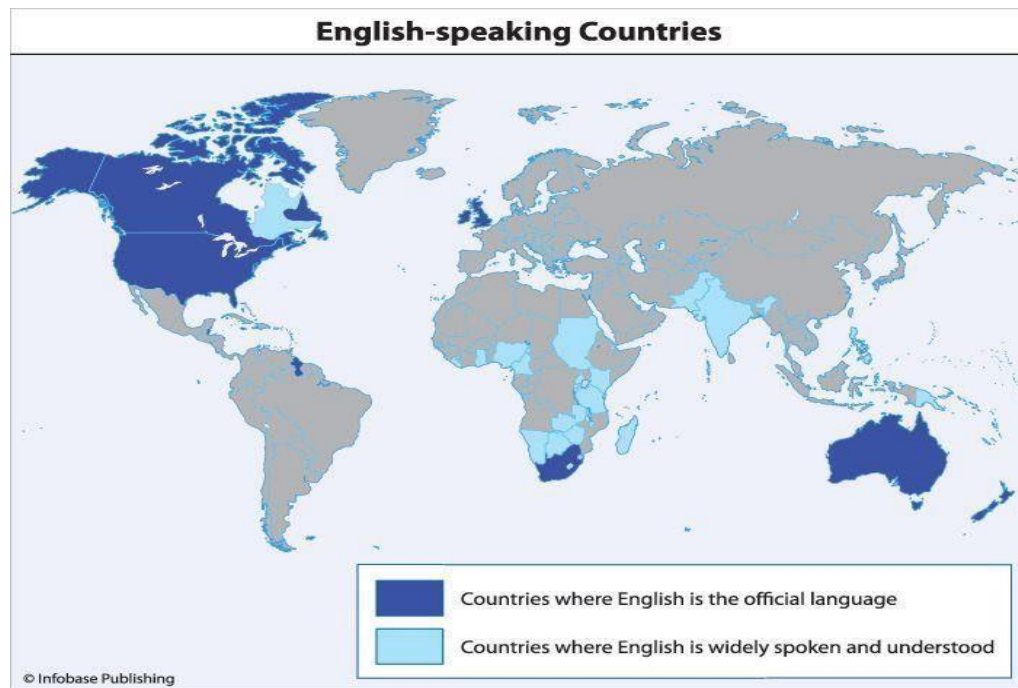


Figure 1.2: Map of the English-speaking Countries in the world

Nowadays, English is the “lingua franca”, it is the language of choice in many fields, such as computer coding and international business, as well as in higher education. Lingua franca refers to a language that encourages the adoption of a non-native language to facilitate communication with people whose “first language” differs from the “second” because they come from different cultures. That’s why English has become such an integral part of our lives. It’s no secret that English is the key to global knowledge and today’s literacy.

1.6. English in Algeria:

The English language has acquired a special status in the world. It plays a vital role in many parts of the world, including Africa. It has been given educational importance as the language of global knowledge and skill transfer. However English has gained great importance in Algerian education.

1.6.1. An Overview:

The 21st century has brought with it the need to interact with the rest of the world. Today, the English language is the key to communicating with strangers and accessing information all over the world because it is the universal language. In Algeria, English doesn't hold the same level of respect and roles as a global language as it does in other nations. On the other hand, the French language holds a high position and performs the functions of the language of science and technology, the names of products, branding, and advertising. In addition, it is the country's first foreign language since independence.

According to the report of the British Council in 1984, English is the third language in Algeria. At that time, there were many British English teachers in Algeria, and the government wanted to increase the number of English teachers in the country. However, several challenges were encountered, such as currency issues, visas, and university requirements for a Ph.D. degree. There was also an appeal from people including the Francophone community to make English the first language to be taught, and it was receiving support from the USA and the UK in 1980 by providing scholarships to the Algerian students.

At the end of the 1980s, Algeria went through one of the most difficult periods in its history. The social sector of the country also known as the Black Decade went through a period of instability, characterized by civil war, which harmed the presence of the English language. All the support and effort went out the window because of the lack of security. Despite this, the government tried to include English as an optional language in the 4th grade alongside French.

The use of English in Algeria is growing every day, especially among the youth. Many Algerians mostly use the internet to play games, watch TV, watch movies, and even communicate through English, which is one of the reasons why the

Minister, the politicians, the writers, and the students urged to improve the use of English in the country.

1.6.2. Ministry Decisions :

The previous minister said “French leads nowhere”. As a result, the rectors were asked to write the headings of administrative documents in “Arabic” and “English” instead of “French” from July 21st, 2019. According to Bouzghaia (2019), “Algeria will focus on English as its first foreign language during the term of office of the current president” (Abdelmadjid Touboune). He also said in an interview with Al Bilad TV that “English is the language through which we communicate with the world” (Touboune, 2019).

The Ministry of Foreign Affairs (MoFA) changed the Arabic-French font of its logo on its official website (Arabic-English) on Twitter on February 25, 2021. Many people wonder if this change is seen as a sign that Algeria is moving towards the English language and away from the French language, as English is the official language of education and training.



Figure 1.3: The new slogan of the Ministry of Foreign Affairs in written in Arabic-English after it was written in Arabic–French

The popularity of English among the Algerian public is increasing, and this is reflected in official policies to encourage its use and learning. One such policy was

the government's decision to teach English to students in third-year primary school, and higher education, particularly as a medium of instruction. Training university teachers in the English language is a major step towards this goal.

Boudiba, leader of one of the largest trade unions in the education sector, said, “The decision to teach English to children from the age of 8 shouldn’t be applied in part to an education system that requires reform and needs to be updated based on a diagnosis of the field.”(Aljazeera, 2022). He added that such reform should be carried out through a comprehensive approach that includes specialists, teacher training, and the necessary financial and human resources.

Following the Ministerial Decision 1419 of December 24, 2022 (Ministry of Higher Education, Scientific Research of Algeria, 2022a), supplementary training is required for all doctoral candidates in their first year of study. The modules cover the following topics: Didactics of Scientific Research and Pedagogy Philosophy English Language Information and Communication Technology in scientific research and Pedagogy. To this end, it is essential to train all teachers in the English language. The Ministry has established level B2 or C1 of the Common European Framework of Reference (CEFR), particularly in the English for Specific Purposes (ESP) language, as the objective of this training. This training should be provided either in the center for intensive language learning or the English departments of universities. The main goal is for every higher education institution to start offering courses in the English language starting from the 2022-2023-24 academic year.

After all the positive publicity that English has received in Algiers, it is to say that the English language in Algiers is experiencing a revival.

1.7. English as a Means of Instruction :

In conventional higher learning settings, the primary language of teaching has usually been the official language of the nation where the school is located, and

across various regions globally, English remains the language of instruction for learners. However, in recent years, English has become the language of instruction more than ever in Europe and many countries around the world (Dearden, 2014; Doizet et al., 2013). In addition to the global significance of English, the concept of English as a Medium of Instruction (EMI) is also on the rise in the contemporary academic world. thus, the English as a medium (EMI) concept involves using English in the classroom where the content of various subjects is taught in a language other than the language spoken by the majority of the people.

Over the two past decades, in non-English-speaking countries, there seems to be an acceleration in the transition from EFL (English as a Foreign Language) to EMI (English as the Medium of Instruction) for academic subjects like science, math, geography, and medicine. The reasons for this include the need to internationalize higher education to attract foreign faculty and students, as well as the desire to provide students with the abilities they have to achieve success in a growingly competitive employment landscape. One of the main goals of adopting EMI for higher education institutions is to internationalize universities to attract more international students and international faculty. More importantly, EMI aims to prepare home students better for a globalized world (Dearden, 2014).

EMI is increasing at a very rapid rate in higher education and in most of the world. Macaro et al., (2018), confirmed that in higher education EMI is growing at a fast rate. Then According to Wanphet & Tantawy, (2018, p: 145), English has moved from a second language in higher education to become the language of higher education academic fields.

1.8. Definition of Attitude:

People respond to their surroundings by assessing them. They have opinions that reflect their emotions, convictions, and responses toward a thing, event, occurrence, item, or individual. Furthermore, opinions can be characterized as a favorable or

unfavorable emotional response to a definite theoretical or tangible thing or idea. "Attitude" is a French term derived from the Italian word "attitudine".

In the realm of language learning, the concept of attitudes has been explored from multiple perspectives (Zainol Abidin et al., 2012). Gardner (1985) posits that attitudes play a pivotal role in motivating individuals to acquire a new language. According to his theory, motivation is a multifaceted construct that encompasses the effort exerted, the desire to attain the goal of language proficiency, and the presence of positive attitudes toward the language learning process itself.

Gardner (1985) asserts that a learner's feelings towards people from other cultures, their perceptions of the target language and its speakers, as well as their learning objectives and general mindset, collectively influence their motivation to learn a foreign language. In essence, attitudes are regarded as a crucial component that shapes an individual's drive and commitment to mastering a new linguistic system. However, Wenden (1991) suggests a wider scope for understanding attitudes and divides them into three aspects: cognitive, affective, and behavioral. The cognitive aspect involves any thoughts or viewpoints on the entities or circumstances related to the attitude.

1.9. Conclusion:

As stated in the opening of the first chapter, the goal of this section was to offer a broad summary of the pertinent research on the portrayal of the present sociolinguistic environment in Algeria. It is a country that speaks multiple languages and is keen on expanding its linguistic diversity by focusing more on the English language and integrating it more deeply into its educational framework. The current situation of its languages is distinct from that in 1962, as Algeria is open to all avenues of science and innovation. It aims to adapt to the various transformations occurring globally. Thus, the development of languages in Algeria is on the rise if the authorities concentrate on encouraging the acquisition of these

popular languages, aiming to enrich Algeria and welcome diverse cultures and knowledge.

Chapter Two: Field of Investigation

Introduction :

In this modern era, the era of progress and prosperity science plays a crucial role in the development and success of the world in several fields. Thus English has emerged as the lingua franca, which makes communication much easier for people across borders and cultures. As a result, many educational institutions around the globe have adopted English as the language of instruction, recognizing its importance in preparing students for success in an increasingly interconnected society. The application of English as a medium of instruction offers numerous benefits. Therefore it provides students with critical skills that improve their employability and help them gain better job opportunities. Additionally, it provides access to many academic resources, research materials, and scholarly works, enabling students to engage with the latest advanced knowledge and diverse perspectives.

This chapter represents the practical part of the study, which attempts to investigate the implementation of English as a medium of instruction in scientific departments. In addition to the students' and teachers' opinions and attitudes toward this decision. It presents and analyzes the findings obtained from data collection for the study, framed within the theoretical context. For gathering data two research instruments have been used: a questionnaire for first-year students in the four departments of (**Material Science(SM)**, **Mathematics (MI)**, **Computer Science(Informatique “INF”)**, and **Technical Science (ST)**). An interview was conducted at the University of Tlemcen with their educators (teachers). Moreover, these results are interpreted to address the research questions posed. The chapter concludes by discussing pedagogical implications, acknowledging the limitations of the study, and offering recommendations for future research endeavors.

2.1. Research Design:

This research attempts to exploit two different research instruments to collect data for answering and investigating the research question. Thus a questionnaire

was selected for students' of scientific departments, where an interview was for their teachers.

2.1.1. Student's Questionnaire:

This questionnaire is devoted to gathering information about the implementation of English as a medium of instruction in the four departments (SM, ST, MI, INF). It investigates the students' views and attitudes about the use of English as a medium of instruction in scientific studies, the challenges and difficulties that they may have and it also provides various strategies and solutions to enhance students' and teachers' English language skills and the application of the language as a medium of instruction.

2.1.1.1. The Sample Population of The Study:

The sample population of the study is the first-year students of the scientific faculty which includes the four departments of (SM, ST, INF, and MI) at Abou Bakr Belkaid Tlemcen University. This questionnaire was given during the academic year 2023-2024. The sample contains one hundred and fifty (150) students who were chosen randomly to answer the research instrument. Therefore, the selected sample allows the researcher to reasonably generalize the findings to represent the overall population, and answer the research questions

2.1.1.2. Description Of The Students' Questionnaire :

The questionnaire was designed to investigate how many modules are studied in English in the scientific departments and the student's opinions and attitudes toward the implementation of English as a tool of instruction in scientific subjects. It also seeks to provide information about the student's proficiency and whether they agree to study in English or if they prefer the French language. Moreover, it investigates the difficulties and challenges that the students faced in studying in English and proposes some solutions for this issue. The questionnaire contains fourteen(14) questions. The questions were in the form of open-ended questions, close-ended questions, and multiple-choice questions

The first question attempts to give information about the student's general information (the student's specialty), while the second question describes a way of the implementation (the number of modules). The questions (Q3-Q4) seek to know the students' proficiency and their use of English, (Q5-Q9) deal with the students' attitudes toward English and the difficulties that they faced, (Q10-Q14) aim to see the students' opinions on the implementation of English as a medium of instruction, the switching from French to English, their view concerning the dominant language and provide a solution to improve this implementation. This questionnaire was conducted in both English and translated into Arabic languages since the majority of the students were not qualified to use English, and a few of them did not answer some questions including what the modules that they studied in English, they just mentioned the number of modules.

2.1.1.3 Data Analysis

Question 1: What is your specialty?

Table 2.1: The number of samples in each department

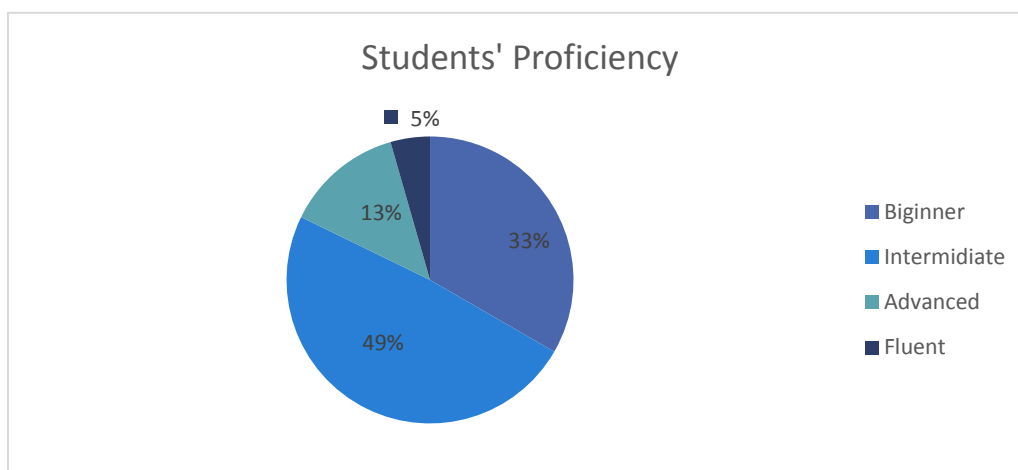
Specialty	Number	Percentage
SM	46	30.67%
ST	20	13.33%
MI	49	32.67%
INF	35	23.33%
Total	150	100%

From the above table, we can determine the number of students who answered this questionnaire. (30.67%) of the sample were from the department of SM, (13.33%) of the informants were from the department of ST, (32.67%) of them from MI, and (23.33%) were from INF.

Question 2: how many modules do you study in English?**Table 2.2: The number of modules that they study in English**

Specialty	Modules
SM	9
ST	2
MI	8(all)
INF	5

According to the results in Table 2, each department has different changes. Thus the department of SM applied English to nine (9) which are the majority of its modules, the department of ST used English in two (2) modules, the MI utilized English in all the modules (8), and the INF department for five (5) and the most important modules.

Question 3: How would you rate your proficiency in English?**Figure.2.1: The Students' Proficiency in English**

According to Figure 2.1, the majority of the students (49%) claimed that they have an intermediate level in English, while (33%) of them stated that they are still

beginners. 13% maintain that they have an advanced level of English, and a few of them (4%) stated that they are fluent in English.

Question 4: How much do you use English?

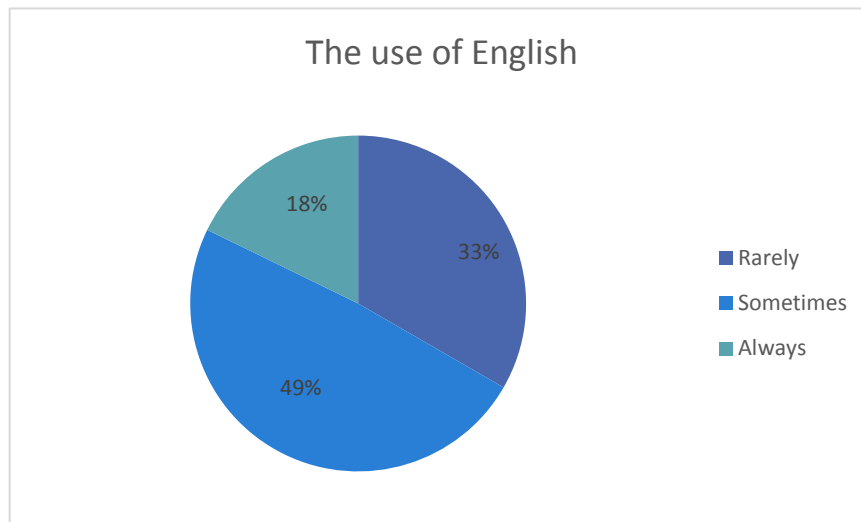


Figure 2.2: The use of English among student

According to the figure below, (49%) of the students claimed that they use English sometimes in their conversations, (33%) of students said that they use English rarely, and (18%) of students reported that they always use English. The percentages indicate that the informants can use English as a means of instruction.

Question 5: how do you feel when using English?

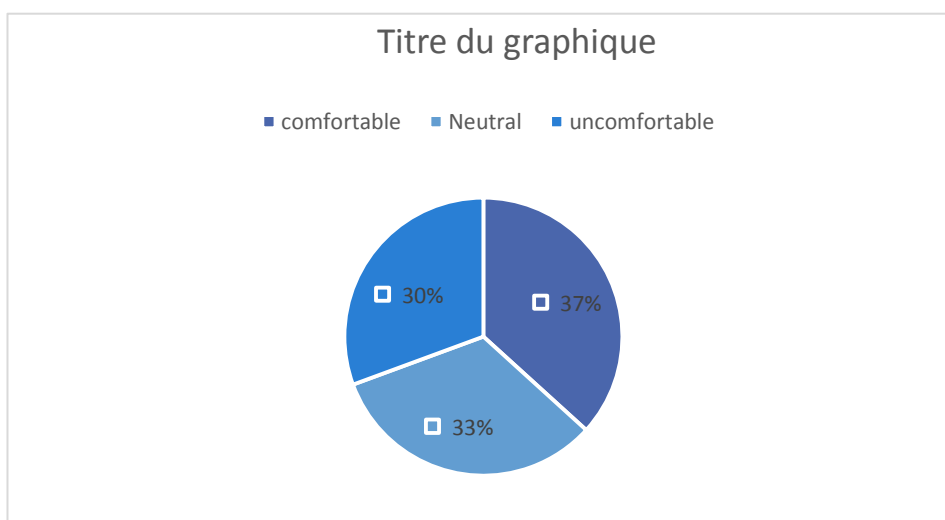


Figure 2.3: The Students' feelings and attitudes toward using English in their life

According to this figure, the majority of the informants (37%) reported that they are comfortable with using English, 33% of them affirmed that they are neutral about it, while 31% of the students asserted that they are uncomfortable. This might reveal that they are comfortable and have a positive view of the use of English.

Question 6: Do you prefer English or French for learning and communicating within the department?

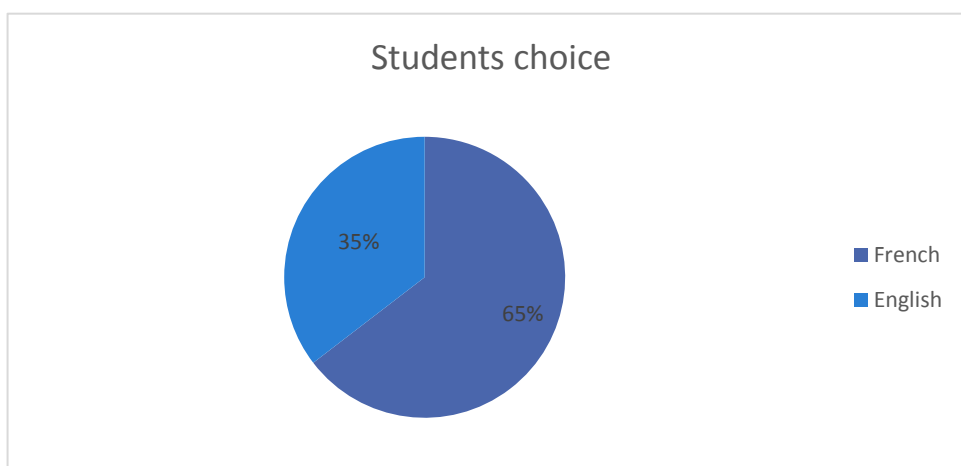


Figure (6) above indicates that the majority of the students (65%) prefer French for learning and communicating, while a few students (35%) select English. This could imply that the sources have an unfavorable (negative) opinion about employing English as a teaching language (EMI).

Question 7: why do you prefer English/ French?

The majority of the students who selected French claimed that they prefer French because it is the second language in Algeria, they use it in their personal life and daily conversations, easy to understand since it is a part of their dialect and they have a low level of English. However, the informants who opt for English assert that they find English much easier to understand, they find much more information

in English concerning their studies than in French, they believe that English is the language of the era, science, and development and it is an international language that offers better opportunities for their carriers.

Question 8: Do you face any difficulties and challenges learning in English?

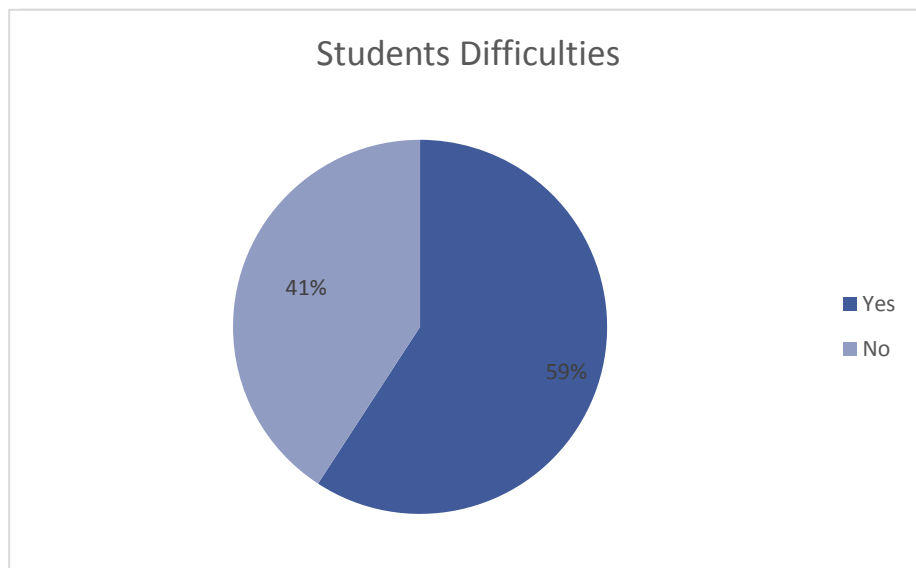


Figure 2.5: Students' Difficulties with Learning in English

It seems from Figure (8) that the students have problems and difficulties in studying in English. This result shows that most of the informants (59%) faced difficulties in learning English, while the rest of them (41%) stated that they did not have issues with learning in English. Thus, this indicates difficulties in adapting English as the medium of instruction within Algerian universities.

Question 9: If yes what are these difficulties?

Most of the students reported that they have difficulties in comprehension, grammar, pronunciation, and vocabulary. Thus, they assert that they have problems understanding courses and scientific terms, due to the problem of pronunciation, they argue that their teachers have problems with pronunciation because they used to teach in French for many years and this became a challenge for both. They also

assert that they have a lack of vocabulary and practice which made them have a low level of English.

Question 10: what is your attitude about the implementation of English as a means of instruction?

Table 2.3: The students' attitudes about the implementation of English as a means of instruction

Attitudes	Percentages
Agree	66%
Refues	24%
Neutral	10%
Total	100%

According to Table (2.3), the majority of the students (66%) agree with the decision to implement English as a medium of instruction in the departments of science, some of them (10%) demonstrate a neutral while a few of them refuse it. These results indicate that the informants have a positive attitude toward this implementation, which might show that the government will succeed in replacing French with English in Algerian universities.

Question 11: Give solutions or suggestions to improve your English level in scientific domains.

In this question, all of the informants declared that they needed more practice. Thus they suggest that they must have more English courses to improve their level and teach them scientific concepts. Some of the students propose reading books, watching movies, and listening to music. However, few of them argue that the government should start the implementation of primary school and high school in scientific fields.

Question 12: Do you think that English would be privileged over French?

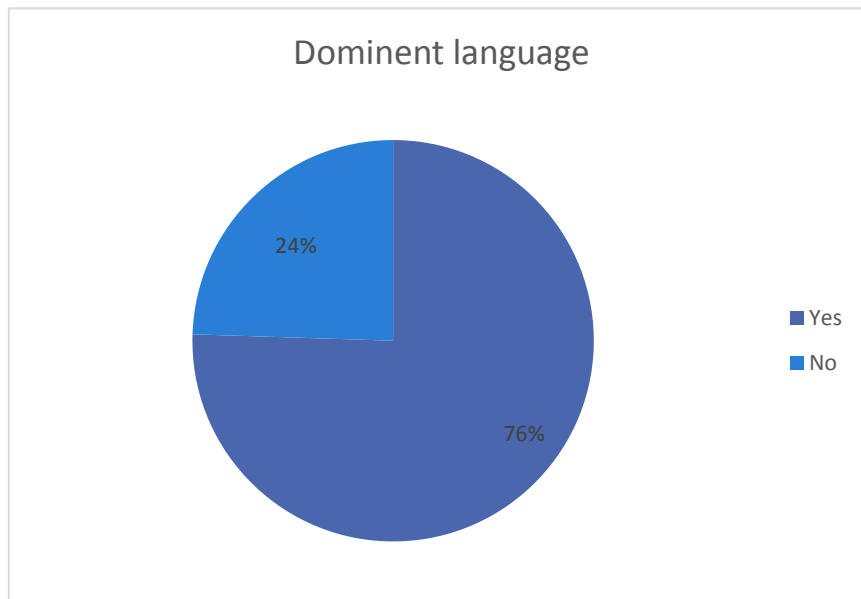


Figure 2.6: Students opinions about the dominant language

According to Figure (9) the majority of the students (76%) confirm that English will be the dominant language in the field of science since it is an international language and it will replace French in Algeria and its universities. However, some of them (24%) insist that French will remain the language of science in Algeria.

Question 13: Do you think that it will be just code-switching and code-mixing?

In this question, the students stated that English, for now, is just code-switching and code-mixing but with time it will be the dominant language and few of them suggested that it will stay as code-switching and mixing. This response indicates that most of the students have a positive opinion about English and good expectations about it for the future.

Question 14: why?

In this question, most students did not answer but some of them stated that it will stay as code-switching and mixing due to the Algerian culture and society and

their use of French, they argue that French became a part of the Algerian identity and it is difficult to replace it.

2.1.1.4. Summary of Results and Findings from Students' Questionnaire :

The gathered data have been analyzed and presented in the previous section. Thus this section will present a summary of the research findings according to the research questions given at the beginning of the study. The results of this research on English as a medium of instruction in the scientific departments demonstrate that: The students declare that each department has a different way of applying English. Thus the Department of Material Science (SM) has applied English in (9) modules, Science Technique (ST) in just (2) modules, Informatique or Computer Science (INF) in (5) and the most important modules, while the Mathematics (MI) department is on all (8) the modules. Students show that they are not completely satisfied with their level of English and this may cause problems and difficulties in their learning process. Furthermore, they declare that they use English sometimes in their conversations and daily life and this indicates that they can use English as a learning tool in the future. Moreover, the majority of the students claimed that they are comfortable using English they just need to improve their skills. However, most of the students prefer French as a medium of instruction because it is much easier for them to understand since it is a part of their dialect and they use it in their daily lives. Overall, the informants claimed that they have difficulties in learning English because they do not understand the scientific terms, and they have problems with pronunciation, especially with their teachers because they were used to teaching French for many years, in addition to other issues like grammar, lack of vocabulary, and practice. Most of them agree and declare a positive attitude toward the implementation of English and they suggested that the implementation should start in primary and high schools to facilitate studying at universities. Thus they provide some possible solutions to improve applying English in scientific faculties and the students' and teachers' English levels like watching movies, listening to music, watching scientific videos in English, reading books, and taking more English courses to help them overcome these difficulties.

The overwhelming majority of the students believe that English will be the dominant language in Algerian universities and the whole world because it is an international language and the lingua franca of the world, they report that it offers more information in the field of science and provides better job opportunities worldwide.

To sum up, from the collected data from the questionnaire it can confirm that the majority of the students show a positive attitude about using English as a means of instruction. Even though they face difficulties and problems with the language. Thus, they suggested that the implementation should start from an early level of study like high school to help them become familiar with the language and the scientific terms and concepts.

2.1.2. Teacher's Interview :

This interview is conducted to gather data about the implementation of English in the four departments **SM, ST, MI, and INF** at the Abou Bakr Belkaid University of Tlemcen. In addition, it investigates the teacher's views and attitudes toward English as a medium of instruction in scientific studies, the difficulties that they might have, and solutions for these difficulties.

2.1.2.1. The Sample Population of The Teachers' Interview :

The sample taken for the study consists of (9) teachers, two teachers from each department (SM, ST, MI, INF), in addition to one teacher from the English department at the University of Tlemcen. The teachers are selected randomly to investigate their opinions and attitudes toward EMI in scientific domains and answer the research questions.

2.1.2.2. Description of the Interview for Teachers:

The interview contains (8) questions using unstructured interviews to answer the research questions. The first and second questions are aimed at knowing whether the teachers prefer French or English for teaching in the scientific field. Questions

(3-4) indicate the teacher's opinions and attitudes toward EMI and the advantages of this implementation for the university. Moreover, questions(5-6) concerns with difficulties. Questions (7-8) deal with the expectations of the teachers about the future of EMI and provide suggestions to improve this implementation in scientific fields.

2.1.2.3 Data Analysis From The Interview:

Question(1-2): Do you prefer English or French in teaching? and why?

This question aims to know the language that the teachers prefer for teaching the scientific field. The majority of the teachers reported that they prefer French as a medium of instruction because it is the language they studied and have been teaching for many years. However, they try to code-switch between the three languages (french - Arabic - and English) when explaining the lectures. This indicates that they are mixing the languages to help the students understand and comprehend the lectures. Although some teachers claimed that they prefer Arabic since it is the mother tongue.

Question 3: what is your attitude about the EMI?

This question seeks to explore the teacher's attitudes toward English as a medium of instruction. All of the teachers (9) show a positive attitude about this use of English since it is the lingua franca of the world. They said that even though they prefer French and it is causing a lot of problems for them to switch to English it is a good decision for the country's development and the future because it is an international language and has become a dominant language for the world in all the fields like; science economy and diverse industries.

Question 4: In your opinion what does EMI offer for the university?

From this question, most of the interviewees identify that EMI has many advantages since it is an international language that may offer good opportunities worldwide, and provide more and better information resources for scientific

research. Therefore it will improve and develop the educational system and quality in the Algerian universities which can contribute to increasing the value of the university among other universities worldwide, especially the universities of developed countries.

Question 5/6: Do you face any difficulties and challenges in teaching in English? what are these difficulties?

These questions aim to discover the challenges that teachers face when using English as a means of instruction. All the teachers stated that they have difficulties using English. The majority of them claimed that they do not master the language enough so they have problems with pronunciation since they are used to teaching in French, in addition to the lack of vocabulary which forces them to switch between the languages.

Question 7: what is your expectation about the future of EMI?

The purpose of the question is to deal with teachers' expectations concerning the use of English. The majority of the interviewees report that English will be the dominant language or the first foreign language that can help to develop the university level of education. While others argue that it is difficult to change from French to English due to the historical background it is not impossible.

Question 8: what is your suggestion to improve your English level in scientific domains?

In this question the teachers assert different suggestions, the most important one is to focus on the younger generation and apply the language quickly without haste, taking into consideration the students' mental abilities. Moreover, they need to provide more English courses and training for both teachers and students to improve their level, in addition to speaking English with friends and watching scientific videos to make a good package of scientific terms and vocabulary.

2.1.2.4 Summary of the Findings From Teacher's Interview :

The information collected from the interview has been displayed and examined in the preceding section. As a result, this section provides a recap of the results based on the questions discussed during the interview.

The interview investigates what is the language that teachers prefer (French or English) focusing on the teachers' attitudes towards this use of EMI, their difficulties, and suggestions to improve the implementation. Thus the majority of the teachers select French as their preferred choice because they have studied the scientific subject till graduation and they have been teaching it in French for many years. However, they show a positive standpoint and agree that English is now a globalized language for all fields including, science, technology, economy, politics, and various industries. Moreover, they claimed that the application of this language in Algerian universities would help them to take a place among the best universities in the world. The interview also deals with the challenges teachers face. Most of them struggle with the language as they do not master it. Thus they assume that French is the first foreign language in Algeria which makes her a part of their dialect, society, and identity. Therefore, They lack vocabulary which forces them to switch between languages. Moreover, according to the respondents, English will become the first foreign language that will contribute to the development of higher education levels. Although others believe that the switch from French to English is difficult due to its historical background. Furthermore, from the solutions to implementing English as a primary teaching language, the most important step is to establish the teachers, enhance their skills, and improve them to handle the English profession, and the most significant one is focusing on children and the rising generation.

In conclusion, despite the important role of French in Algerian society and the educational system, most teachers support the use of English as the language of

instruction and were positive about this decision, believing that it will improve the teaching process for the better.

2.2 Results:

Based on the findings from the surveys completed by students and the discussions held with teachers. The results of the study demonstrate that both teachers and students prefer French as a medium of instruction due to their level of English. However the answers were contradicted, they declared that they do not have issues with English, conversely, most of them showed that they are comfortable when using the language, despite that the problem is in using English as a medium of instruction for the scientific field. Thus they declare that they have difficulties with the arduous scientific terms and destitute vocabulary package. However, they believe that English will have an enormous success in the future. Therefore they have a good expectation for the language and they suggest diverse solutions and strategies to enhance the English language level, proceed, and increase the EMI. Both teachers and students agree that the most appropriate solution is; to provide more English courses for training both of them to improve their level of English especially in scientific subjects, raising the focus on the younger generation which can facilitate both teaching and learning processes

From these results, it can be recognized that the process of the implementation of English as a medium of instruction is facing a lot of issues which makes both teachers and students suffer in their teaching and learning. However, the results demonstrate that this process will encounter a good response in the future by the next generation since they all argue that; the process needs more time and they show a positive attitude toward English. According to the findings, the EMI requires some strategies like training the students and teachers, in addition to giving priority to primary and high schools in the scientific field to make this recent system work

2.3. Discussion:

The first hypothesis stated that both students and teachers in scientific departments may be not satisfied with the way of teaching. The collected data revealed an interesting result: The questionnaire was addressed to the first-year students and the four scientific departments **SM, ST, MI, and INF** showed that the students were used to taking scientific courses in French, in addition to the use of French as a part of their dialect and mother tongue which make it difficult for them to replace the language. This fact was confirmed by their teachers' responses in the interview. They believe that it is hard to replace French and it needs too much time. The answers obtained from both instruments were contradicted as both showed positive attitudes toward English, thus they claimed that English will enhance the educational level worldwide. However, they demonstrate dissatisfaction with the way of teaching as they report a lot of problems and difficulties starting from the hard terms and lack of comprehension. These results obtained from all the research instruments go hand in hand with our hypothesis so that it can be said that it is confirmed

The second hypothesis stated that the shift from French to English and the lack of teaching materials in English may be the major challenges. The collected data shows that the students face several difficulties among them lack of vocabulary, low level of English, and bad pronunciation and these results were affirmed by the teachers, who declare that they face problems in pronunciation, they do not master the language, and lack of vocabulary which force them to switch between the three languages Arabic, French and English to facilitate lectures for students. Thus they both reported that replacing French with English is not an easy task and it needs too much time. The collected data from all research instruments reinforce each other and come to the side of our second hypothesis which makes it confirmed

The third hypothesis stated that by providing English language training for students and teachers, practice may improve their language skills and the implementation of English as a medium of instruction. The obtained data from the research instruments used demonstrate that; both students and teachers have problems with the languages due to their low level, and the hard scientific concepts

they believe that it is a new thing, and they need to have more English courses and deliberate schedules for scientific lectures in English to assist them overcome these difficulties and master the language since they were used to learn and teach the scientific subject in French for a long time. This result is similar to our third hypothesis it declares that the third hypothesis is confirmed.

2.4. Limitation of The Study:

The current research journey has encountered some difficulties. Among them, the research was conducted in another department (Faculty of Science) with four departments (MI, SM, The ST, INF). In addition, It was hard to find the teachers from each department for the interview. Therefore, the administration takes too much time to post the questionnaire on the study platforms (Teams application), which makes us obliged to search for other platforms like Facebook groups. Also, it was difficult to search for first-year students in each department and each classroom, and that was time-consuming to gather the needed data.

2.5. Suggestion For Further Research:

This research explored the perspectives of the students and teachers regarding the use of English as the language of instruction for scientific subjects in the department of Tlemcen (SM-ST-MI-INF). English as a medium of instruction (EMI) encompasses a wider range of potential research areas. Therefore, the following points outline some possibilities for future research within this domain:

- The socio-cultural factor that shapes the acceptance and effectiveness of English as a medium of instruction programs.
- Policy and implementation strategies for successful English medium of instruction initiatives.

2.6. Conclusion:

This chapter highlights the students' and teachers' attitudes and opinions toward the use of EMI in scientific departments, to know the challenges and difficulties

that the students and teachers face, in addition, to providing suggestions and strategies to improve language skills and the effective implementation of English.

The information collected from the students' questionnaire reported contradicting attitudes, that the majority of the students have negative attitudes toward studying in English and they preferred French because of the difficulties that they face especially their low level in the language. However, they show an optimistic reaction and good expectations for the future of EMI in Algerian universities.

In the teachers' interview, the majority of them claimed that they agree with the implementation of English, despite all the challenges that they face in teaching in English. They indicated that English will help the university and the studying system to rise to another level and offer many good opportunities for both students and teachers in their careers.

General Conclusion

The present study attempts to investigate the teacher's and students' attitudes and perspectives toward the implementation of English as a medium of instruction in scientific fields. English has emerged as the lingua franca of the world due to historical, political, and sociological influences, and this led to its widespread adoption as an international language. Furthermore, as a result of the globalization of the English language in many aspects such as science, technology, medicine, economy, and politics, it become trending in higher education among non-native English speakers. Thus, it increases the EMI programs.

To reach the research objectives, both quantitative and qualitative methods have been used. The sample consists of eight teachers from the departments of Science (SM-ST-MI-INF) and one teacher from the English departments to address their attitudes and perceptions toward adopting EMI. Then a questionnaire was distributed to a sample of one hundred and fifty first-year students from these departments, to examine the students' opinions on the use of EMI in learning scientific subjects.

The first chapter conducts the theoretical part of the study, it explores the meaning of language and the sociolinguistic landscape of Algeria highlighting its complex historical and cultural heritage and the educational challenges. Thus it identifies the meaning of EMI and its status in Algerian society regarding language planning and policy in the country taking into consideration the concept of attitudes and its importance in the scientific fields.

The second chapter represents and discusses the findings from the data collected through the student questionnaire and teacher interviews. The current study indicates certain limitations. Moreover, the chapter offered different solutions and strategies to help learners, educators, and policymakers overcome the difficulties and improve EMI adoption.

From the analysis and interpretation presented in the previous chapter, the research questions can be answered. The first question identifies the student's and teachers' perceptions and attitudes toward using EMI in Algerian universities. According to the collected information, the majority of the sample declared that the implementation of English will succeed over time and will contribute to developing and improving the studying system and quality of the Algerian universities, which gives the impression of a positive attitude. However, most of the students were dissatisfied with learning English in the university due to their low level of the language.

The second question explores the challenges and difficulties that are faced by the teachers and the students in the EMI. The results showed that the shift from French to English led to different issues including lack of proficiency and vocabulary, lack of teaching materials, and the problem of pronunciation. These findings clarify that those are the major challenges for both teachers and students.

According to the collected analyzed data from the research tools that have been used, it can be demonstrated that both students and teachers are aware of the significant role of English as a medium of instruction (EMI) in the teaching and learning process. However, they argue that the government should focus on the younger generation, providing English language training for both students and teachers and practice to improve language skills and the implementation of English in the teaching and learning process in scientific fields.

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Appendix A

STUDENT'S QUESTIONNAIRE

Dear participant, this questionnaire aims to investigate the case of the implementation of English in scientific departments, this questionnaire studies student proficiency in English. It also explores their attitudes, in addition to the challenges they face. Your honest responses are very crucial to providing information about this topic. All information you share will be maintained anonymous and confidential.

عزيزي المشارك، يهدف هذا الاستبيان إلى دراسة حالة تطبيق اللغة الإنجليزية في كليات العلوم ، ويدرس هذا الاستبيان مدى كفاءة الطالب في اللغة الإنجليزية. كما يستكشف مواقفهم، بالإضافة إلى التحديات التي يواجهونها. إن إجاباتك الصادقة مهمة جدًا لتوفير معلومات حول هذا الموضوع. سيتم الحفاظ على جميع المعلومات التي تشاركها مجهولة و سرية.

1. What is your speciality? (ما هو تخصصك؟)

.....

2. How many modules do you study in English? and What are these modules?

(كم عدد الوحدات او المواد التي تدرسها باللغة الانجليزية وماهي هذه المواد؟)

.....
.....

3. How would you rate your proficiency in English? (كيف تقيم كفاءتك في اللغة الانجليزية)

Bigginer (مبتدى) intermidiat (متوسط) advanced (متقدم) fluent (ممتاز)

4. How much do you use English? (كم تستخدم اللغة الانجليزية)

Sometimes (احيانا) Rarely (نادرا) Always (دائما)

5. How do you feel when using English? (ما هو شعورك عند استخدام اللغة الإنجليزية؟)

comfortable (مريح) neutral (حيادي) uncomfortable (غير مريح)

6. Do you prefer English or French in learning and communicating within the department?

(هل تفضل اللغة الإنجليزية أم الفرنسية في التعلم والتواصل داخل القسم؟)

.....

7. And why? (لماذا؟)

.....

.....

8. Do you face any difficulties and challenges toward learning in English?

(هل تواجه أي صعوبات وتحديات في التعلم باللغة الإنجليزية؟)

Yes No

9. If yes what are these difficulties? (إذا كانت الإجابة بنعم ماهي هذه الصعوبات؟)

.....

.....

10. what is your attitude about the implementation of English as a means of instruction?

(ما هو موقفك من تطبيق اللغة الإنجليزية كوسيلة للتعليم؟)

.....

.....

11. Give solutions or suggestions to improve English level in scientific domains.

(تقديم حلولاً واقتراحات لتحسين مستوى اللغة الإنجليزية في المجالات العلمية؟)

.....

.....
.
12. Do you think that English would be privileged in government French?

(هل تعتقد أن اللغة الإنجليزية ستكون لها الأفضلية على الفرنسية؟)

Yes

No

13 . Or do you think that it will be just code-switching and code-mixing? and why?

أو هل تعتقد أنه سيكون مجرد تبديل و خلط بين اللغتين؟ ولماذا؟

{ [Code switching is mixing words from two languages or more in the same sentence and it is frequent among bilinguals]

([التبديل بين اللغتين](#) و هو خلط كلمات من لغتين في نفس الجملة و هو أمر شائع بين متحدثي أكثر من لغة واحدة)

Exemple: أخذ راحة: "une pause" ما قبل "I start working on the new project." (Arabic: "I will take" + French: "a break" + English: "before I start working on the new project.") }

Appendix B

Teacher's Interview :

- 1/** Do you prefer English or French in teaching? and why?
- 2/**What is your attitude about the EMI?
- 3/** What does EMI offer the university?
- 4/** Do you face any difficulties and challenges in teaching in English?
- 5/** What are these difficulties?
- 6/** What are your expectations about the future of EMI?
- 7/** What is your suggestion to improve your English level in scientific domains?

Summary:

This work aims to investigate the attitudes of students and professors towards the use of the English language as a medium of instruction in scientific subjects in Algerian higher education. The study results showed that both students and professors recognize the importance of the English language, and expressed their positive stance towards its use as a tool for learning and teaching in the scientific field, despite the students' preference for the French language as their first foreign language. Based on the obtained results, this study provides some educational guidelines for teachers, students, and policymakers to ensure the effective use of the English language as a medium of instruction in Algerian universities.

المخلص:

في مواقف الطلاب و الأساتذة إتجاه إستخدام اللغة الإنجليزية كوسيلة للتعليم يهدف هذا العمل إلى التحقيق في المواد العلمية في التعليم العالي الجزائري. اظهرت نتائج الدراسة ان كلا الطلاب و الأساتذة يدركون اهمية اللغة الإنجليزية ، كما عبروا عن موقفهم الإيجابي تجاه إستخدامها كأداة للتعلم و التعليم في المجال العلمي. رغم أن الطلاب أبدوا تفضيلهم للغة الفرنسية كونها لغتهم الأجنبية الأولى . استنادا إلى النتائج التي تم الحصول عليها، تقدم هذه الدراسة بعض التوجيهات التربوية للمعلمين والطلاب و صانعي السياسات من أجل ضمان إستخدام فعال للغة الإنجليزية كوسيلة للتدريس في الجامعات الجزائرية.

Résumé:

L'objectif principal de cette étude est d'explorer les attitudes des étudiants et des enseignants envers l'utilisation de l'anglais comme moyen d'enseignement dans les matières scientifiques dans l'enseignement supérieur en Algérie. Les résultats de l'étude ont montré que tant les étudiants que les enseignants reconnaissent l'importance de la langue anglaise, et ont exprimé une attitude positive à son utilisation comme outil d'apprentissage et d'enseignement dans le domaine scientifique, bien que les étudiants aient exprimé une préférence pour le français en tant que première langue étrangère. Sur la base des résultats obtenus, cette étude propose des orientations pédagogiques pour les enseignants, les étudiants et les décideurs afin de garantir une utilisation efficace de la langue anglaise comme moyen d'enseignement dans les universités algériennes.