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TEACHERS' AND LEARNERS' ATTITUDES TOWARDS ENGLISH AS A MEDIUM OF INSTRUCTION: THE CASE OF BIOLOGY DEPARTMENT AT THE UNIVESRITY OF TLEMCEN

Dissertation submitted to the department of English as a partial fulfilment of the requirements for master's degree in English Language Studies

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2023 - 2024

Dedication

I dedicate this humble work to my precious parents.

To my dear sister, two brothers. And all my family members, and to my closest friends.

Acknowledgments

First of all, i would like to express my greatest gratitude to Allah almighty, for his guidance and blessing.

My sincere gratitude goes to my supervisor **Pr. NEGADI Mohammed Nassim**, for his support, valuable suggestions, helpful comments, and encouragement throughout this study.

I would like to extend my thanks to the members of the jury: **Dr. ADDER Fatima Zohra** and **Dr. BENADLA Lamia,** who accepted to evaluate this work.

Many thanks to all the teachers and students from the department of Biology at Tlemcen University for their contribution to the production of this work.

Abstract

Nowadays, English is commonly used among students not only in their studies but also in social settings. English is no more restricted to science and technology but also it is a tool for global communication. The purpose of this study is to measure students' attitudes towards English in Biology department at Tlemcen University. The current research opts for a mixed method approach, combining quantitative and qualitative techniques, using structured questionnaires and interviews as research instruments. The questionnaire is administered to forty-five scientific students from different academic levels (1st, 2nd, and 3rd) and from various specialties at the University of Tlemcen. Additionally, the interviews were conducted to nine teachers from the same department. The study provides unexpected findings regarding the role that English play in the Algerian education they demonstrated that these positive views are influenced by the high value of English.

Key words: Attitudes, motivation, English as a Medium of Instruction, Bilingualism.

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General Introduction

English has become the language of international communication and academic research. There are many non-English speaking countries have recognized the importance of English proficiency in preparing their students for global competitiveness and have adopted English as a medium of instruction (EMI). In this respect, EMI is a topic of interest in Algerian universities; teachers and students have different attitudes towards the use of English as a means or as a medium of instruction. While some recognize the potential benefits of EMI, such as improving English language skills and accessing international resources, others encounter challenges related to their limited proficiency in English and the lack of support and resources.

In the realm of EMI in university setting, both students and educators confront various challenges. One significant obstacle involves language proficiency, with both teachers and students struggling with limited mastery of English, thereby affecting their capacity to comprehend and communicate effectively. Additionally, there is a lack of adequate course materials in English, restricting students' access to pertinent information and influencing their learning outcomes. The utilization of English as a medium of instruction and assessment can give rise to anxiety and hinder students' comprehension of scientific content. Challenges extend to pedagogical decisions made in the classroom, influencing the quality of learning and the overall educational experience. Teachers, too, may encounter difficulties related to their competency in English, influencing their efficacy in delivering lectures and engaging with students.

This research aims to explore the curiosity surrounding teachers' and students' attitudes towards using English as a medium of instruction, particularly in the field of science, and to gain a deeper understanding of how individuals (instructors and learners) perceive English in the educational context in general.

The purpose of this study is to answer the following questions:

1. How do scientific teachers and students perceive the use of English as a medium of instruction in their field of study?

2. What challenges do teachers face when implementing English as a medium of instruction?
3. What impact does English as a medium of instruction have on educational quality?

The research hypotheses to be tested are as follows:

1. The majority of Biology students and teachers hold positive attitudes towards English as a medium of instruction because of its international significance in various fields.
2. Teachers face different challenges in implementing English as a medium of instruction, including inadequate training, lack of resources, and differences in students' English language competence.
3. English as a medium of instruction enhances educational quality by providing access to a diversity of scholarly resources and global academic materials.

Regarding the research methodology and tools, a questionnaire and an interview are used, since the researcher's aim is first to explain, explore and collect factual and inventory data. The questionnaire has shown the factors that push students to have or to generate negative or positive attitudes towards the use of English as a medium of instruction. The results will be analyzed and triangulated based on a mixed method approach combining qualitative and quantitative methods.

The present dissertation is divided into two chapters that are interrelated. The first one is devoted to a literature review that represents the importance of studying language attitudes in sociolinguistics, also; a sociolinguistic profile in Algeria and different language contact phenomena.

The second chapter describes the aim of understanding how teachers perceive and navigate the challenges associated with EMI, the competencies required to have an effective teaching method in educational environments, and the role of professional development in enhancing their capabilities. Besides that, it includes research tools used in the empirical study and methods used to analyze the obtained data. In addition, the interpretation of data and research results by answering the research questions and check whether the hypotheses are confirmed or not.

CHAPTER ONE

Theoretical Background

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CHAPTER ONE: Theoretical Background

1.1 Introduction

Many scholars are primarily concerned with investigating attitudes towards English because of social, historical, and economic factors. The present chapter provides a theoretical background related to the field of language attitudes: definitions of attitudes, the relationship between attitudes and language learning, attitude in social psychology, and importance of studying language attitudes in sociolinguistics. Along with discussing the sociolinguistic profile in Algeria, one should also shed light on the crucial language contact phenomenon namely bilingualism, and some of its theories. Moreover, this chapter attempts to highlight the significance of English as a medium of instruction, along with its benefits and challenges.

1.2 Language Attitudes and Language Learning

Success in acquiring a second language was formerly thought to be based on how students balanced their aptitude with their intelligence. The growth of language proficiency was measured using a battery of aptitude tests, but it quickly became clear that aptitude could not be the only factor at play.

Therefore, researchers proposed additional characteristics that might be related to aptitude, namely learner motivation. Gardner (1960) distinguished between two types of motivation: ‘instrumental’ motivation, which represents the learners’ desire to achieve sufficient language proficiency to effectively meet their objectives, and ‘integrative’ motivation. Gardner (1960, p. 13) states that ‘integrative’ motivation enhances students’ enjoyment of learning a second language and encourages them to socially interact with individuals from the same culture to acquire language skills specific to that group. (Gardner, 1960, p. 18). In fact, the process of learning a second language involves a wide range of factors. Gardner and Lambert (1959) identified a factor that has also been favoured by other scholars to explain the level of language achievement: the factor of ‘attitude’.

1.3 Attitude in Social Psychology:

The term 'attitude' was originally used in psychology to describe individuals' feelings, views and behaviors towards a variety of objects including people, events, social groups, or aspects of daily life. Indeed, attitude plays a crucial role in the domain of social psychology. Allport (1935, as cited in Cooper, J. *et al*., 2016) declared attitude to be "the most distinctive and indispensable concept in contemporary American social psychology." Eagly and Chaiken (1993, p. 1) have defined the concept of attitude as "[….] a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor**,**" and thus, individuals' attitudes toward anything might be either positive or negative, and these attitudes will influence their behaviours. Allport (1935) believes that "an attitude is a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related" (p. 810). According to this broad definition, attitude plays a crucial role in how individuals respond to mental images and connect the concept of attitude to an individual's mental capacities. Conversely, Sarnoff (1970, p. 279) narrows the definition of attitudes as "a disposition to react favorably or unfavorably to a class object." Based on this definition, attitudes are an individual's positive or negative reactions toward something.

Two contradictory perspectives have emerged due to a rising interest in the term 'attitude': the mentalist and behaviourist views. While attitudes are considered a hypothetical construct by the mentalist school of thought, intrinsic and hidden mental characteristics can only be deduced from people's observable behavior rather than explicitly understood. The behaviorist view, on the other hand, gives greater value to the stimulus-response relationship.

1.4 Language Attitudes

Speaking, as a way of self-expression, is not the only natural behaviour; another natural characteristic of speakers is their favorable or unfavorable attitude toward a certain variety. Therefore, every spoken variety can be judged positively or negatively. Indeed, Crystal (1992, p. 215) defined language attitudes as "the feelings people have

about their own language or the languages of others." Several factors can lead to positive or negative attitudes toward a particular language or language variety: social, historical, religious.

1.5 Importance of Studying Language Attitudes in Sociolinguistics

As a matter of fact, most research on language attitudes has been conducted within the framework of social psychology. However, people's perceptions of language and language varieties are a major topic in sociolinguistics. Indeed, Joseph (2004*b*, p. 7) indicates that early language attitude research contributed significantly to the development of sociolinguistics. McKenzie (2008*a*, p. 64) mentions that despite the intricacy of the influence of the social context, attitudes are most likely what determine behavior; this is one reason. Another reason is that attitude is an essential component in the development or decline of a language McKenzie (2010, p. 37). To conclude, language attitude is regarded as a crucial component in the development of the diverse sociolinguistic range for various reasons.

1.6 Sociolinguistic Profile in Algeria

Algeria is a multilingual country due to several reasons: historical, cultural, and political. It has become a center of sociolinguistic research, known for the various spoken languages, primarily Arabic, Tamazight, French, and lately English.

1.6.1 Arabic

Arabic holds a significant status among Muslims because it is a Semitic and Quranic language. Chejne (1965, p. 449) declares that "Arabic is seen as a God-given language unique in beauty and majesty, the best equipped and the most eloquent of all languages for expressing thought and emotions." In Algeria, Arabic is acknowledged as the most widely spoken and practical language, distinguished into two forms: Modern Standard Arabic and Dialectal Arabic.

Classical Arabic has been modernized to become Modern Standard Arabic (MSA). Since Algeria gained its independence in 1962, MSA has been the official language of the country, known as Fu-sha, and is learned through education

(Djennane, 2016). Modern standard Arabic is widely used in the Arab world and serves as a lingua franca for speakers of various spoken dialects, some of which are incomprehensible to each other. MSA is mostly used in formal settings, whereas vernacular Arabic in Algeria is commonly known as Derdja, predominantly used for informal and casual conversations on the street. Algerian Arabic, like other dialects, coveys the speaker's social and geographic origins.

1.6.2 Berber

In fact, Berber or Amazigh people do not speak as the Arabs do. There are five main categories for Berber variations; the most frequently used variety is the Kabyl, also known as Takbaylit or Tamazight that is spoken in the East of Algeria, TiziOuzou, Bejaia, and Bouira. Shawi is often located in the Southeast of Canstantine. Shenwi (Tachenwit) is found in the mountain of Chenwa. In addition to Mzabi language, which is spoken in Ghardaia and the surrounding agglomerations (Djennane, 2016).

1.6.3 French

Historically, France colonized Algeria for an extended period from 1830 to 1962. Taleb Ibrahimi (1997, pp. 42-43)[11] claims that "French, the language violently imposed on the Algerian people, constituted one of the fundamental elements used by France in its depersonalization and acculturation policy towards Algeria". Therefore, *Frenchification* was gaining ground, disregarding any ethical principles, identity and language of the colonized nation, which was eventually recognized as a French province. After independence, the government implemented the Arabization policy, aiming to replace French with Arabic in all sectors (Berrahma, 2018). Nonetheless, French is still introduced as a foreign language in the Algerian educational system starting from the second year of primary school (Chammami, 2011, p. 230; Grandguillaume, 2004).

[1]My translation of the original French text: "Le français, langue imposée au peuple algérien dans la violence, a constitué un des éléments fondamentaux utilisés par la France dans sa politique de dépersonnalisation et d'acculturation à l'égard de l'Algérie."

1.6.4 English

English serves as the global language and lingua franca of today's world and is one of the six official languages of the United Nations. Even though there are no colonial connections with Algeria, English has gained some ground because both users and non-users generally hold positive attitudes toward the language. Moreover, due to a systematic attack on the French language, and indirectly on its speakers Miliani (2000, p. 21).

Nowadays, English is widely used in almost all facets of life. Algeria is aiming to adopt English across multiple sectors, particularly in education. In Algeria, unlike most other nations, English is not recognized as an official language. Zughoul (2003, p. 122) argues that

> In Arab North Africa, and despite the fact that French has had a strong foothold in Tunisia, Algeria and Morocco, it has been retreating and losing a lot of ground to English. In fact, the tendency of what can be termed a shift from French to English in thus countries cannot be cancelled.

According to the constitution of Algeria, English is considered as a second foreign language; it was adopted in many institutions, such as military, economic, and cultural ones. English provides significant and straightforward functionality across various domains, indicates that many people are using English because it is highly regarded within the Algerian community.

1.7 Language Contact Phenomena

Understanding the linguistic outcomes of language contact in various types of speech communities is one of the main objectives that sociolinguists have consistently pursued (Weinreich, 1953; Haugen, 1953; Ferguson and Gumperz, 1960). ……..

1.7.1 Multilingualism

'Bilingualism' and 'multilingualism' both terms focus on the study of language generation, processing, and understanding in two or more languages. According to Hall (2001), people who use two or more languages in which they are not expected to be proficient are currently referred to as plurilingual or multilingual. Hence, Algeria is regarded as a multilingual country because Algerians speak at least four different

languages: Algerian Arabic, Tamazight, Literary Arabic, French, and English in some domains.

1.7.2 Bilingualism

The intricacy of language and its applications, along with the co-existence of social groups from various linguistic communities and the interaction between the languages spoken and individuals' unique social and psychological characteristics, all contribute to various forms of bilingualism. In fact, bilingualism can be viewed as a continuum ranging from the basic ability to use a few words in a second language to full mastery of two or more languages. Thus, in a given multilingual culture, each bilingual person can be positioned at a specific point along that continuum at any given time.

Despite the challenge of assessing bilinguals' proficiency in both languages, or in just one of the four skills, researchers have suggested some definitions for the different forms of bilingualism. It has been defined based on various elements; according to Bloomfield (1933, p. 55) bilingualism is a "native-like control of two languages"; on the other hand, Macnamara (1967, as cited in Hamers& Blanc, 2000),argues that a bilingual is "anyone who possesses a minimal competence in one of the four skills." Many writers have provided multiple definitions that span the two previous extremes; they took into consideration the linguistic setting, level of language contact, and some other socio-psychological variables. According to Weinreich (1953, p. 73),

> […] the ideal bilingual switches from one language to the other according to appropriate changes in the speech situation (interlocutors, topics, etc.), but not in an unchanged speech situation, and certainly not within a single sentence.

Weinreich (1953) distinguished between types of bilinguals using different terminology: 'compound', 'coordinate' and 'subordinate', the first term refers to acquiring two languages in the same environment, such as a child whose parents typically switch between two languages. On the other hand, the coordinate bilingual learns their mother tongue from birth at home, then acquires a second language in a different setting, for example at school. They keep them apart, even if the degree of proficiency in the two languages is similar. This is not the case of a subordinate

bilingual who has learned a second language later in life but will never reach the proficiency of their first language.

1.8 Bilingualism and Academic Success

The conceptual definition of academic success is to meet all course requirements within the designated timeframe by applying specific linguistic and cognitive skills to accomplish academic-related tasks.

1.8.1 Cummins' Theory

1.8.1.1 Additive / Subtractive Bilingualism

Additive bilingualism refers to a situation in which a person has developed equal and balanced skills in two languages, whereas subtractive bilingualism refers to a situation in which a person expands their L1 while developing their L2. According to some researchers, high levels of proficiency in both languages have a beneficial impact on learners' academic and cognitive development. Furthermore, the social context which is important for language development. Hence, bilingualism can yield favorable outcomes. In cases where a second language holds significance in society, it will be studied alongside the native language**.**

1.8.1.2 The Threshold Hypothesis

It is assumed that students must attain a specific level of competency in both their first and second languages in order to fully benefit from bilingualism; acquiring a second language requires a certain degree of linguistic and conceptual understanding in the first language. In simpler terms, acquiring a second language positively influences learners' verbal cognitive abilities. Cummins proposes two different types of thresholds:

- At a higher level, balanced bilinguals with proficient competence in their L1 and L2 enhance cognitive maturation through additive bilingualism (Cummins, 1979).
- At a lower level, if competence in both L1 and L2 is low, threshold learners may experience detrimental cognitive effects.

Students must attain proficiency in their L1 during their education to prevent cognitive impairment and to facilitate the acquisition of a second language later on.

1.8.1.3 BICS / CALP:

Cummins distinguishes between language acquisition in social and academic contexts.

Basic Interpersonal Communication Skills (hereafter BICS) are skills required in social contexts. It is the language people use on a daily basis to communicate with each other. Social interactions are crucial as they take place within a meaningful context; they do not have many cognitive demands.

On the other hand, Cognitive Academic Language Proficiency (hereafter CALP) refers to formal and academic education. Students must reach this level of language acquisition in order to succeed in class. In Algeria, it is important to have a high level of language education.

If this model is implemented for Algerian bilingual students in scientific domains, it will become obvious that those pupils would find BICS more manageable compared to CALP. BICS cannot be used to assess their academic success without evaluating an individual's cognitive academic language proficiency. Academic success and conversational competence in the English language take time to achieve. For example, there are significant disparities in the French language proficiency of first-year LMD students and Master's students. Thus, students learn more about the language and apply it more accurately each year.

1.8.1.4 Common Underlying Proficiency

Since Arabic is the first language of students in scientific fields, they have improved their conceptual and linguistic competence in it. According to Cummins (1979), the Common Underlying Proficiency theory (CUP) is a multifaceted concept of language proficiency that includes both linguistic and cognitive components. CUP suggests that a common underlying proficiency encourages the development of cognitive and academic skills in both (L1) and (L2) (Cummins, 1979).

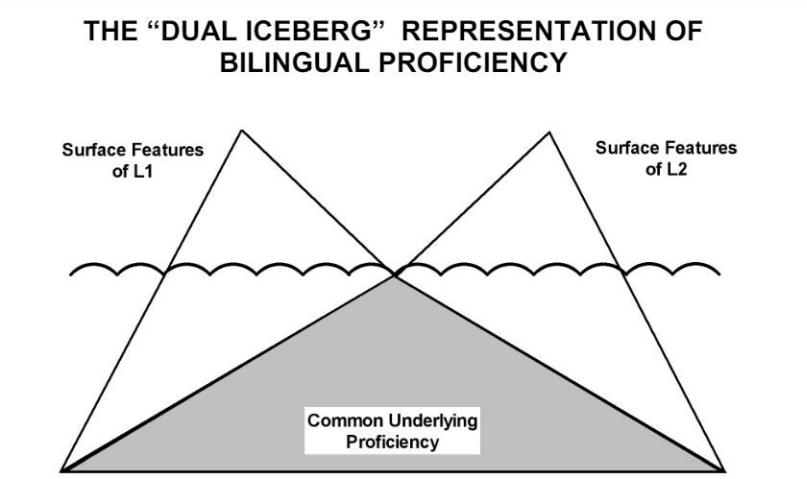

Figure 1. Dual Icebergs Representation of Bilingual Proficiency (Cummins, 1992)

Cummins introduces two Icebergs symbolizing both L1 and L2, which share a common underlying proficiency.

1.9 English as a Medium of Instruction (EMI)

English is considered as a lingua franca that plays a pivotal role in all facets of life. Crystal (2003, p. 110) argues that "many nations have in recent years made English an official language or chosen it as their chief foreign language in schools." He added, "English has become the normal medium of instruction in higher education for many countries and is increasingly used in several where the language has no official status" (Crystal, 2003, p. 112). Many factors lead to the extensive adoption of English as a medium of instruction (EMI); for instance, global job opportunities, availability of scholarly works, and enhanced academic mobility. Costa and Coleman (2013) attribute the increased use of English as a medium of instruction to several important variables:

1. The growing number of information outlets, such as books, articles, and academic works, is exclusively accessible in English due to social and status reasons.
2. There is an increasing trend of student and faculty mobility toward English language programs.

3. English language skills are almost a requirement for graduate employment.

Many nations have recently shown interest in adopting English as the language of instruction, at least at the post-secondary level, such as China, Germany, and United Arab Emirates. The increasing prevalence of English usage in academic and research settings has sparked discussions among scholars on the language's function as a lingua franca.

1.10 Significance of Implementing English as a Medium of Instruction in Algerian Universities

The use of English as a medium of instruction at Algerian universities is crucial given the current globalized environment. Graduates' employability can be improved through EMI, which provides them with the English language proficiency required to succeed in the global employment market.

Furthermore, by exposing students to a set of academic cultures and perspectives, EMI can enhance the standard of higher education in Algeria, as well as develop critical thinking abilities. In addition, EMI can enable Algerian academics to engage with global research and academic communities, publish their research in highly regarded publications, and participate in international meetings and workshops.

Finally, the implementation of English as a medium of instruction has the potential to enhance Algeria's economic growth and global integration, given that graduates with English language competence can boost the nation's competitiveness. Therefore, it is important for Algerian institutions to invest in English language instruction and to encourage the integration of EMI into their curricula to prepare graduates for the challenges of the professional and academic world in the twenty-first century.

1.11 Benefits and Challenges of English as a Medium of Instruction Implementation at Tertiary Level

According to Wilkinson and Zegers (2019), through EMI, students can improve their employability, gain access to many cultures and areas of expertise, and enhance their language skills. Moreover, EMI may give colleges the opportunity to broaden

their student body recruitment and expand their educational programs. Despite the benefits of EMI implementation, challenges may arise during the process.

Lastly, curriculum design is another obstacle that can accompany the implementation of EMI. Teachers must be able to provide appropriate resources for the students' language levels, and the curricula must be created to fit the students' specific language needs. Li (2019, pp. 1-16) said, "EMI is not a simple process of replacing the medium of instruction. Instead, it involves a complex set of changes in the educational system which impact teachers, students, and administrators."

1.12Conclusion

The exploration of attitudes towards English as a medium of instruction, particularly in the sociolinguistic context of Algeria, reveals significant implications for both language learning and policy-making. Understanding the social, historical, and economic factors influencing these attitudes helps highlight the complex interplay between language and society. The research underscores the critical role of motivation and attitude in language acquisition, as well as the importance of bilingualism and multilingualism in shaping academic success. In the Algerian context, the sociolinguistic profile, characterized by the coexistence of Arabic, Berber, French, and English, demonstrates the dynamic nature of language contact phenomena. The integration of English as a medium of instruction presents both opportunities and challenges, offering a pathway for improved educational outcomes and global engagement. This synthesis of linguistic theories and practical insights underscores the need for informed and strategic approaches to language education in Algeria and beyond.

CHAPTER TWO

Research Methodology, Data Analysis and Discussion

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CHAPTER TWO: Research Methodology, Data Analysis and discussion

2.1 Introduction

The chapter at hand aims to bridge the gap between the theoretical and practical parts of the present investigation. It describes the procedures followed and provides a thorough explanation of the strategies and methods adopted to carry out the data collection for this investigation. This chapter highlights the methodological design and the several steps undertaken. This research was conducted to investigate teachers' and learners' attitudes toward English as a medium of instruction (EMI). More specifically, it details the mixed methods used, including a description of the participants and the selection procedure, how data were gathered, what questions were put forward, how they were analyzed, and how the data gathered were interpreted.

2.1.1 Research Design

The purpose of this study is to measure the teachers and learners attitudes towards English in their field of study. The linguistic difficulties at universities were hypothesized to be primarily caused by the switch from Arabic to French, and the lack of publications in these two languages compared to English. Additionally, the researcher hypothesized that the majority of scientific faculty learners prefer English as their medium of instruction, despite some educators still choosing to teach in French or Arabic. Furthermore, certain socio-demographic characteristics of the respondents, the parents' socio-economic position, and the respondents' place of residence (urban and rural), will account for variation in the views of students regarding EMI.

2.1.2 Triangulation

'Methodological triangulation,' also called 'mixed-method research,' applies a variety of methodologies to investigate a phenomenon (Risjord et al., 2001; Casey & Murphy, 2009). Qualitative approaches are textual and explanatory by nature; they include open-ended interviews. On the other hand, quantitative approaches entail statistical analysis of the data or questionnaires obtained using measurements or standardized scales, providing quantitative reports (Risjord et al., 2001). In this study, an interview and a questionnaire were used to achieve methodological triangulation.

2.1.2.1 Mixed Method: Qualitative Vs. Quantitative Approach

Using a mixed-method approach can yield superior findings as it allows the examination of data from multiple perspectives. Quantitative data are employed to assess the effectiveness of an intervention, while qualitative data clarify the intervention's methodology. Mixed methods are beneficial because they provide more opportunities to address the relevant study issues (Tashakkori & Teddlie, 2003, p. 14).

Hence, using both quantitative and qualitative data through a mixed-method approach can enhance analysis and improve accuracy. Furthermore, this approach enables the use of various methodologies that facilitate data collection to achieve the research objectives. To illustrate, the quantitative analysis of this investigation includes a questionnaire given to 1st, 2nd, and 3rd year English for Specific Purposes (hereafter, ESP) scientific students at Abou BekrBelkaid University of Tlemcen.

The objective of qualitative insights is to investigate and evaluate the data to formulate conclusions about teachers' attitudes of English as a means of instruction. The qualitative methodology in the present study includes an online interview addressed to English for Specific Purposes scientific instructors at Abou BekrBelkaid University of Tlemcen.

2.1.3 Setting, Population and Sampling of the Study

2.1.3.1 Setting

The term 'research setting' refers to the social and physical environment in which research is conducted. The current research was conducted at Abou BekrBelkaid University of Tlemcen, Algeria, in the Faculty of Biology.

2.1.3.2 Population

The term 'population' has been defined by Chelli (2017, p. 28) as "the group of people whom the study is about. The target population consists of all the people to whom the survey's findings are to be applied." He believes that the sample is "the group of participants whom the researcher actually examines in an empirical investigation."

Since the English language has been implemented as a means of instruction in Biology department, the target population of the present study is ESP teachers and students. They were both chosen using purposive sampling; they belong to the scientific streams of Farm Animal Husbandry and Animal Foods Origins, Agronomy, Biology, and Hydraulic at Tlemcen University.

2.1.3.3 Sampling

A sample is a portion of the entire population, whereas sampling is the process of selecting a small group of participants for a study. The chosen individuals serve as suitable key informants, given their qualifications, thereby making significant contributions to the required research data (Gay, L.R., Mills, G.E., &Airrasian, 2009). From the perspective of Johnson and Christensen (2000), sampling is the method of selecting participants for a study from a population.

2.1.3.3.1 Students

The sample of forty-five scientific students from different academic levels (L1, L2, and L3) was selected for the questionnaire method. Four independent variables were taken into account namely; gender, place of residence (urban/rural), parents' educational level, and the father's socio-economic status. The questionnaires were administered to forty-five students, they were chosen based on purposive sampling, the sample is divided to fifteen from each level L1, L2, and L3, answers only thirty-nine were handed back.

2.1.3.3.2 Teachers

Concerning teachers, the sample consists of nine instructors that teach in the Faculty of Science at 'Abou BekrBelkaid University of Tlemcen,' the sample was chosen for structured interview. The instructors were chosen using purposive sampling, they differ in age, gender, PhD subjects, and level of experience. For reasons of privacy and anonymity, the teacher's names have not been mentioned in the current dissertation.

2.1.3.3.3 Variables in the Study

2.1.3.3.3.1 Independent Variables

Four independent variables: gender, place of residence (urban/rural), parents' educational attainment, and the father's social and economic standing —to help explain the variations in the respondents' opinions. These factors were selected because a lot of studies have examined them to explain student's attitudes toward learning and achieving success in foreign languages.

2.2.3.3.3.2 Dependent Variables

This study will examine two dependent variables: the degree to which students favor using English as a medium of instruction, and the amount of time students spend using English outside of the classroom.

2.1.4 Data Collection Instruments

The investigation was conducted using two research instruments. Initially, a questionnaire was created for students of the Biology Faculty at Abou Bekr Belkaid University, and an interview was conducted with teachers in the same field. The current study employs both quantitative and qualitative approaches in the form of an interview and a questionnaire in order to obtain accurate results. Both tools were subjective when collecting data and analyzing people's viewpoints.

2.1.4.1 Description of the Questionnaire

Asking people questions is a straightforward method to gather insights about their knowledge and opinions. The questionnaire is a research instrument for gathering data that provides many advantages. Brown (2001) claims that "Questionnaires are any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among given answers,"(as cited in Dörnyei, 2003, p. 6).

In this respect, the questionnaire includes three types of questions: close-ended, multiple choice, and open-ended. In the first type of question, participants have to choose the option that best matches their views. Regarding the second type of question, it involves a set of answers from which the participants must select the relevant box. The third type of question invites participants to provide their thoughts

on the topics covered. Therefore, questionnaires are suitable for a broad range of research questions and can be used to gather both qualitative and quantitative data.

2.1.4.2 Description of the Interview

Miller and Glassner (1997) view that:

> Those of us who aim to understand and document other understandings choose qualitative interviewing because it provides us with a means for exploring the point of views of our research subjects, while granting these points of view the culturally honored status of reality

The primary objective of interviews is to gather detailed information and understand the perspectives of the respondents. To demonstrate the significance of the interview, Cohen, L., Manion, L., and Marrison (2000) assert that:

> Interviews enable participants- be they interviewers or interviewees- to discuss their interpretations of the world in which they live, and o express how they regard situations from their own point of view. In these senses, the interview is not simply concerned with collecting data about life: it is part of life itself.

To gather data on the effectiveness of English as a medium of instruction in the Biology Faculty, nine online structured interviews consisting of seven questions were targeted to nine teachers. Due to the unavailability of teachers, the interviews were conducted online.

2.1.5 Data Analysis and Discussion of the Findings

2.1.5.1 The Analysis of the Questionnaire

2.1.5.1.1 Univariate Analysis

In this section, each question will be analyzed and explained separately. The first six questions are closely related to the participants' profile.

Section One: Respondents' profile: (N: Number of Participants / %: Percentage)

1. **Gender**

Table 1. Distribution of the Sample

Gender	N	%
Males	**7**	**18%**
Females	**32**	**82%**

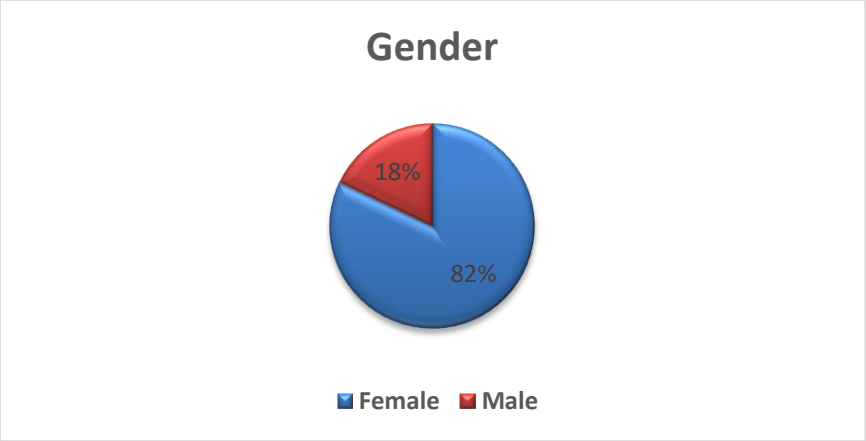


Figure 2. Distribution of the Sample

Figure (2) indicates that the sample is distributed differently among the participants in the chosen sample: 82% are females and 18% are males.

2. Educational Level:

Table 2. Educational Level

Educational Level	N	%
License 1	**1**	**3%**
License 2	**10**	**26%**
License 3	**28**	**72%**

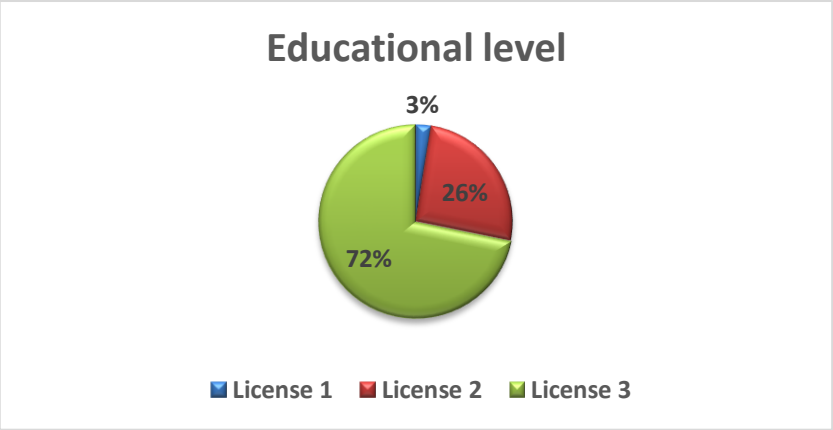


Figure 3. The Educational Level

The following graph shows that 72% of the respondents are in License 3, 26% are in License 2, and only 3% are first-year students.

3. Place of Residence:

Table 3. Place of Residence

Place of Residence	N	%
Urban	30	77%
Rural	9	23%

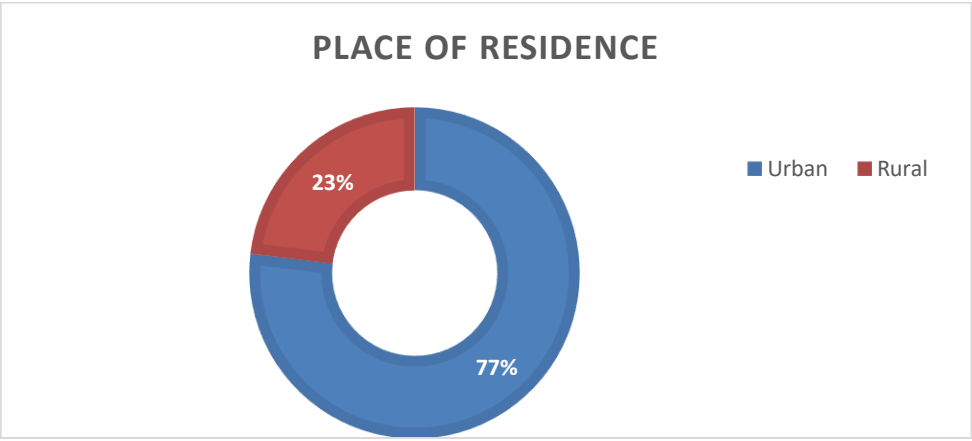


Figure 4. Place of Residence

It can be clearly observed in figure (4) that more than half of the respondents (77%) live in urban places, while 23% of them live in rural areas.

4. Socio-economic Status of Parents

Table 4. Socio-economic Status of Parents

Socio-economic Status	N	%
High	3	8%
Medium	33	84%
Low	3	8%

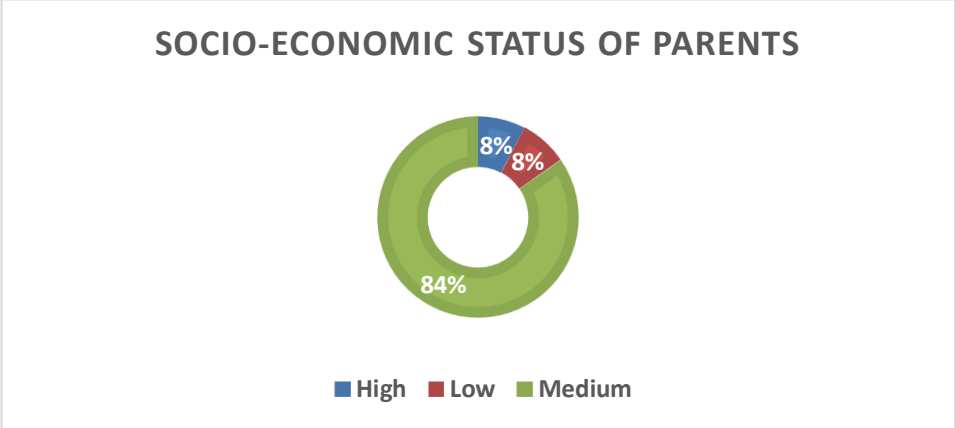


Figure 5. Socio-economic Status of Parents

The figure 5 demonstrates that 8% of the respondents' parents are from the high class, 84% of them belong to the middle class, while the remaining percentage; are from the low class.

5. The Educational Level of the Participants' Fathers:

Table 5. The Educational Level of the Participants' Fathers

The Educational Level	N	%
Primary Level	5	13%
Middle School Level	8	18%
High School Level	14	38%
University Level	12	31%

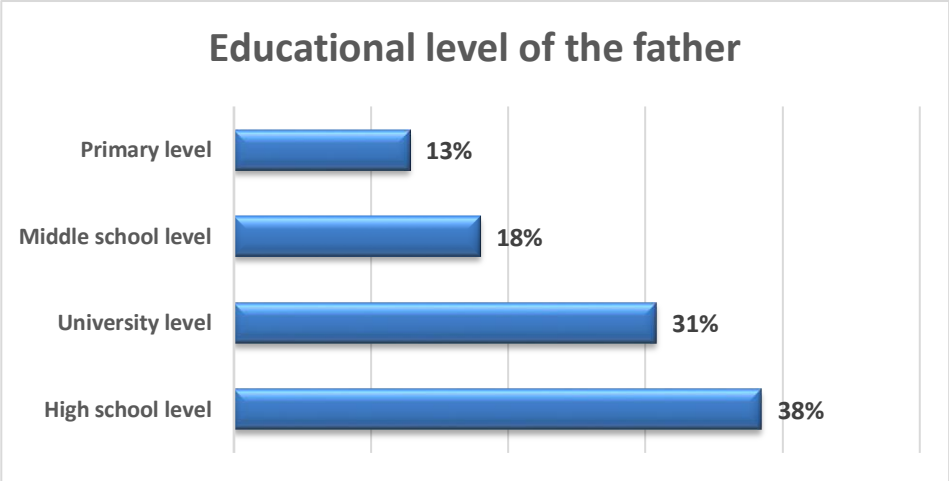


Figure 6. The Educational Level of the Participants' Fathers

As shown in figure (6), 13% have completed elementary school, 18% have completed middle school, 31% have completed university education, and 38% have completed high school.

6. The Educational Level of the Participants' Mothers:

Table 6. The Educational Level of the Participants' Mothers

The Educational Level	N	%
Uneducated	3	8%
Primary Level	4	10%
Middle School Level	7	18%
High School Level	18	46%
University Level	7	18%

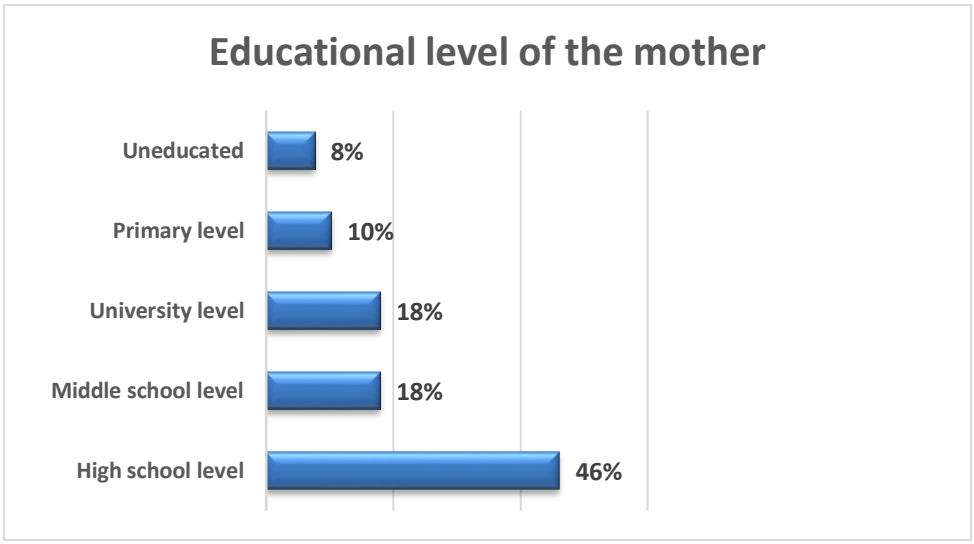


Figure 7. The Educational Level of Participants' Mothers

The graph indicates that the majority of the mothers 46% have reached high school, the same percentage 18% for the middle school and the high school level, 10% have completed primary level, and a minority of them 8% are illiterate.

Section Two: Perceptions of English as a Medium of Instruction

Table 7. Preferred Language to Learn

The Preferred Language	N	%
English	**32**	**82%**
French	**2**	**5%**
Spanish	**5**	**13%**

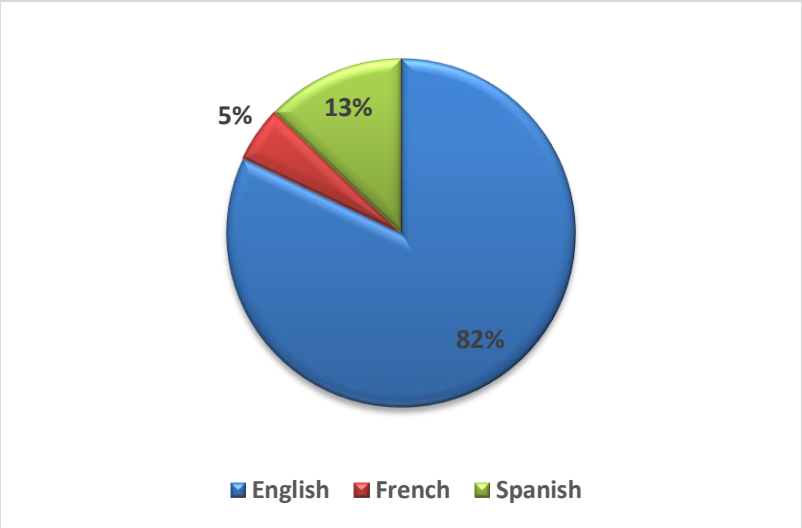


Figure 8. The Preferred Language to Learn

As it is illustrated in figure (8) that the majority of participants 82% prefer the English language, 13% goes for Spanish language. While only 5% chose French language as a preferable language.

Table 8. Preferred Language of Instruction in Biology

Preferred Language of Instruction	N	%
Entirely in English Language	8	20%
Entirely in Arabic Language	4	11%
Entirely in French Language	7	18%
Combination of English and Arabic language	13	33%
Combination of French and Arabic language	3	8%
Combination of French, English and Arabic	4	10%

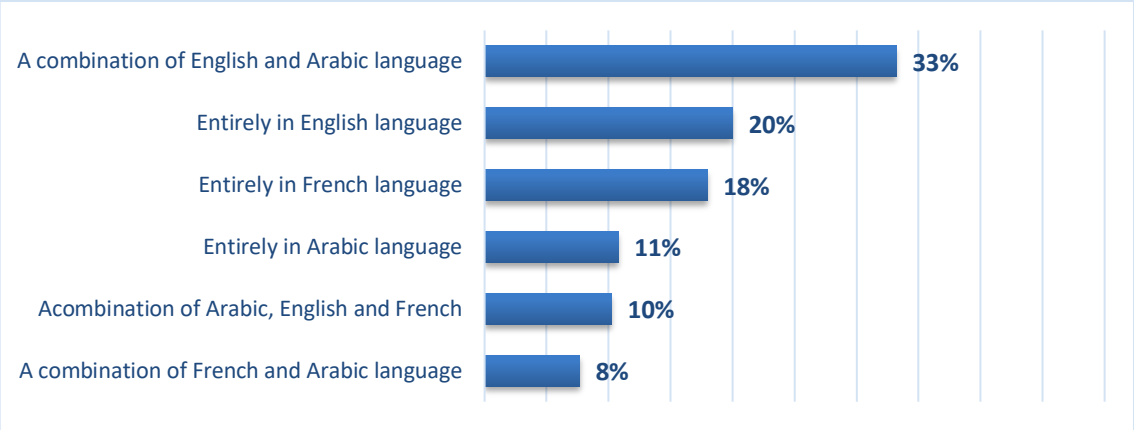


Figure 9. The Preferred Language of Instruction in Biology

The figure (9) indicates that the most preferred language of instruction in Biology is a combination of English and Arabic language 33%. 20% of the respondents chose to study entirely in English language, 18% of them chose to be taught entirely in French language, followed by 11% entirely in Arabic language. A small portion of 10% chose a combination of Arabic, English and French. While only 8% of them opt for a combination of French and Arabic language.

Table 9. Attitudes toward English as a Medium of Instruction

Attitudes	**N**	**%**
With	29	74%
Against	10	26%

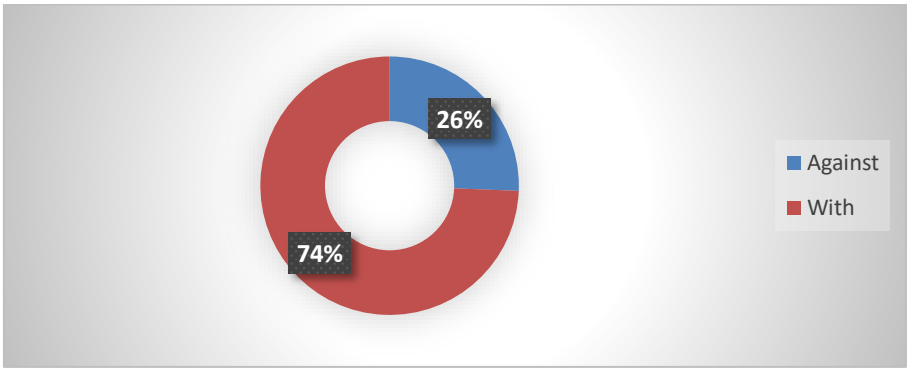


Figure 10. Attitudes toward English as a Medium of Instruction

The data reveals that the majority of participants support implementing English as a medium of instruction, while 26% of them are against of the implementation. This shows positive attitude toward English as a medium of instruction in scientific fields.

Table 10. Using English as a Medium of Instruction in Classroom

Using EMI in classroom	N	%
Rarely	21	54%
Occasionally	16	41%
Never	1	3%
Frequently	1	3%

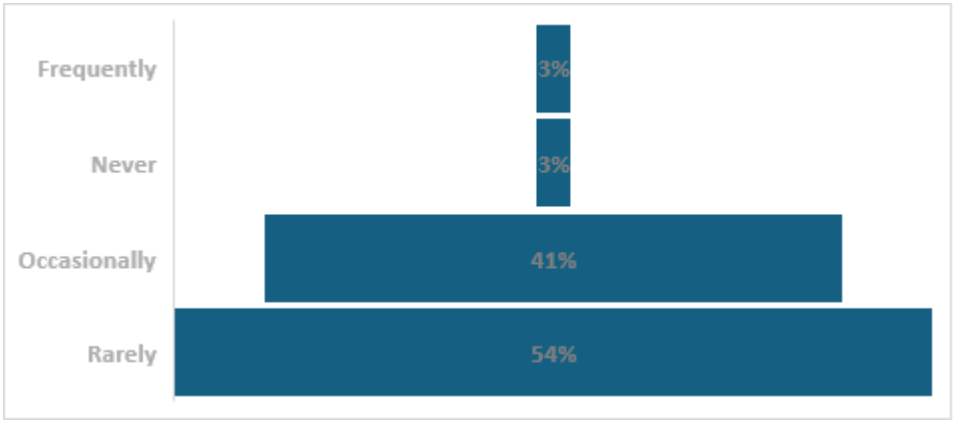


Figure 11.Using English as a Medium of Instruction in Classroom

As it is shown in figure (11), half of the participants 54% do not consistently use English in classroom, 41% from them use it occasionally, and 3% for never and frequently.

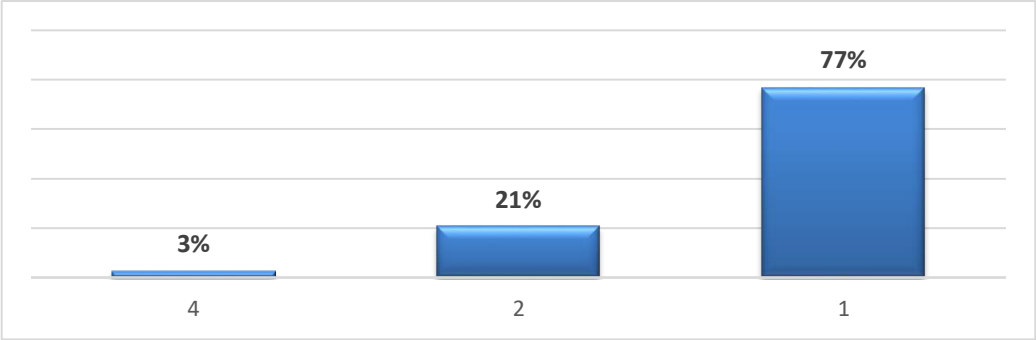


Figure 12. The Number of Modules Taught in English

The following figure indicates that 77% of respondents said they study only one module in English, 21% said that they study two modules, and only 3% of them said they study four modules in English language.

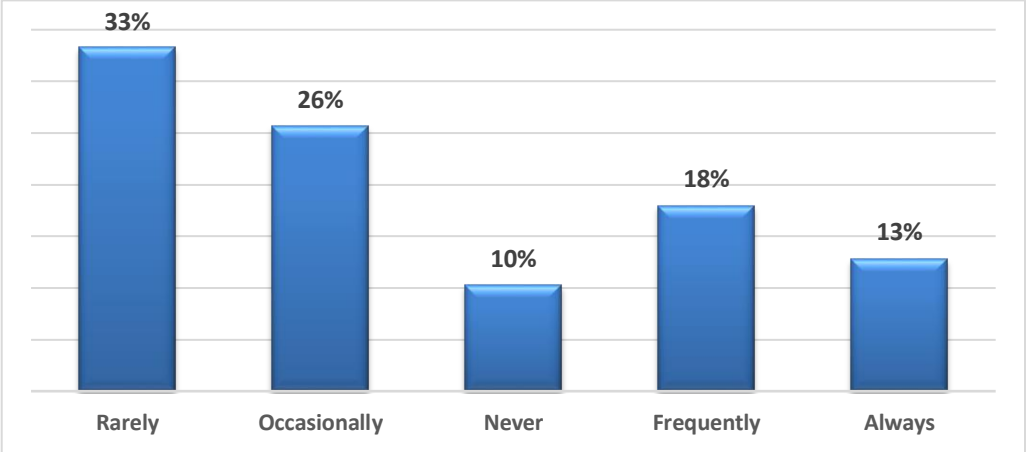


Figure 13. Using English Out of Academic Context

The following figure reveals that 33% of participants rarely use English out of academic context 26% said they use it occasionally, 18% frequently practice it, 13% of them always use it, while 10% of them never use English out of academic context.

Table 11. The Impact of English as a Medium of Instruction

Impact of EMI	N	%
Positive	26	67%
Negative	5	13%
Neutral	8	20%

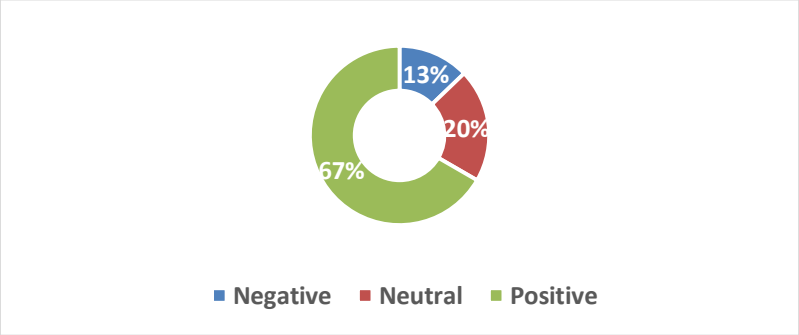


Figure 14. The Impact of English as a medium of Instruction

The data displayed in figure (14) shows that over two thirds 67% of the participants stated that using English as a medium of instruction has a positive effect; 20% took a neutral position, and 13% claimed that it has a negative effect on their Biology studies.

Table 12. English and Education Quality

English and Education Quality	N	%
Yes	27	69%
No	3	8%
Not sure	9	23%

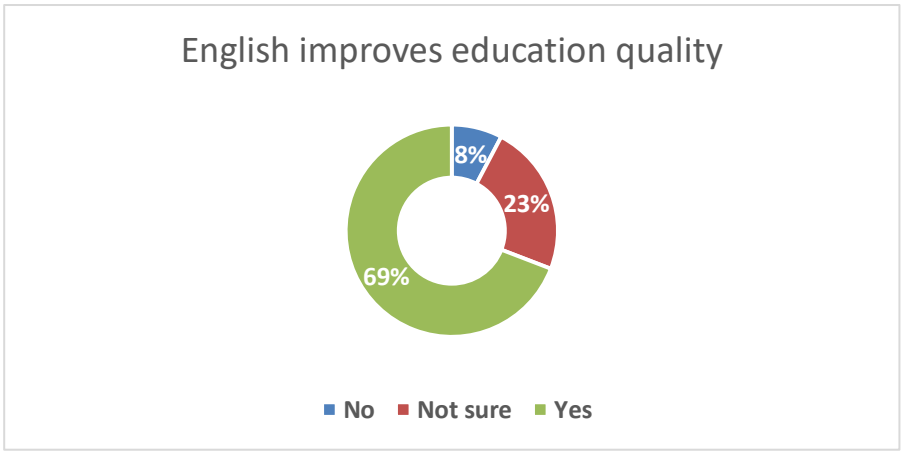


Figure 15. English and Education Quality

The figure (15) indicates that 69% of participants believe that English enhances education quality, 23% are not sure, and 8% do not think that English improves the overall educational quality.

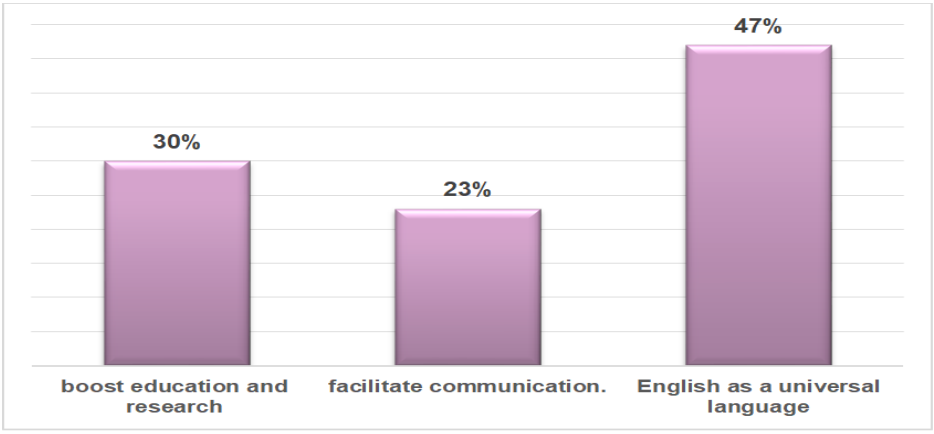


Figure 16. Reasons for Agreeing English Improves Education Quality

In response to an open-ended question that asked participants to explain their affirmative responses to the preceding one, 47% of respondents said that English is a universal language, 23% said it helps in communication, and 30% said it advances research and education.

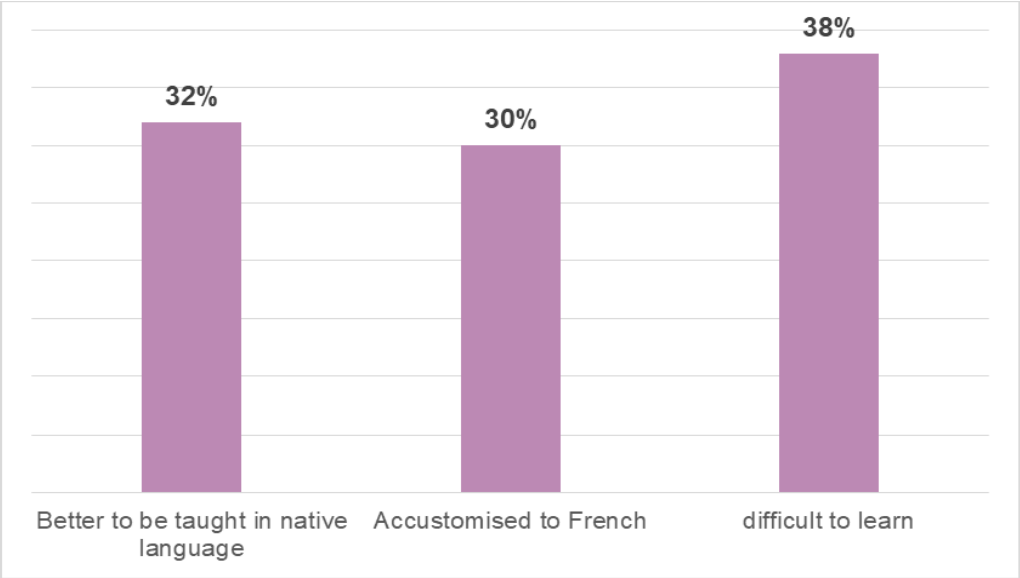


Figure 17. Reasons for Disagreeing English Improves Education Quality

The figure (17) indicates that 38% find the language difficult to acquire English language, 32% would rather get instruction in their native tongue (Arabic), and 30% feel more comfortable speaking French.

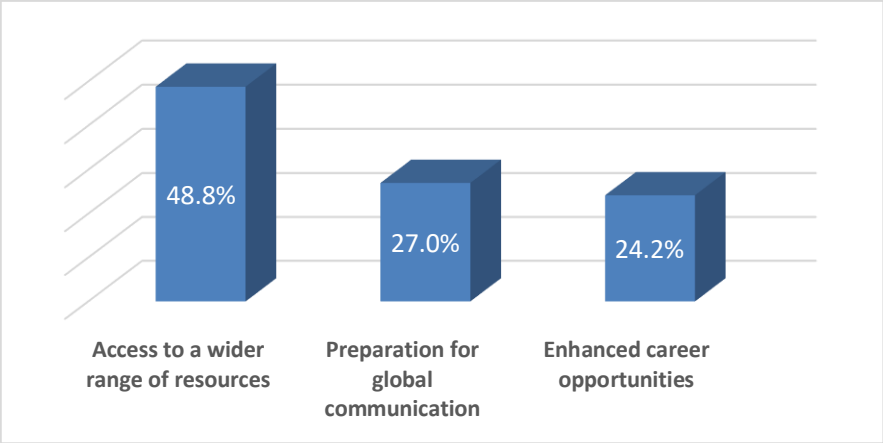


Figure 18. Advantages of English as a Medium of Instruction

The graph indicates that 48.8% of Biology students stated that English can access a greater variety of resources to aid in their studies, 27% mentioned that learning English had improved their ability to communicate with people from around the globe, and 24.2 stated that learning English improves their career and gives them better opportunities in the job market.

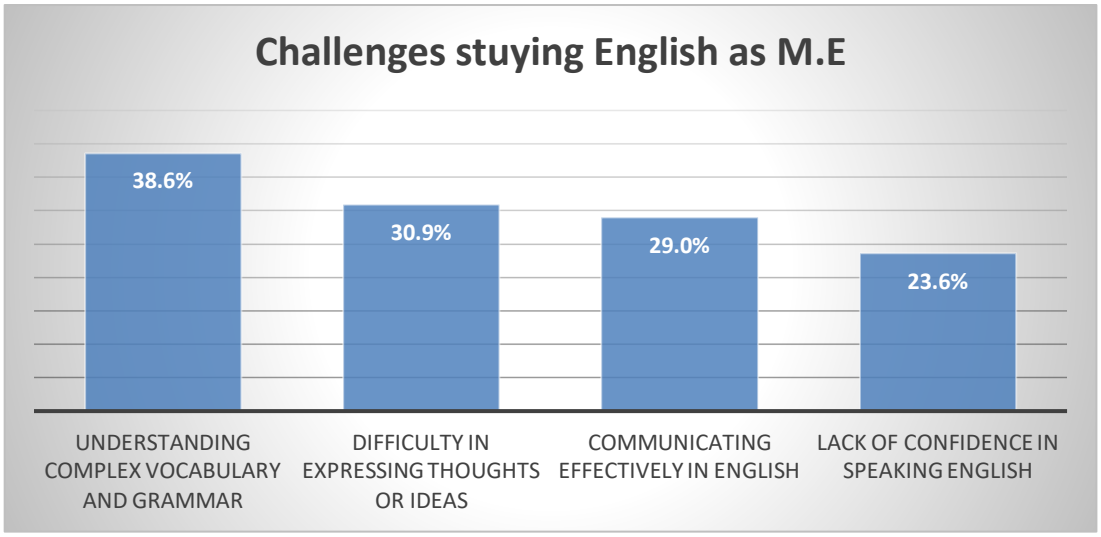


Figure 19. Challenges of Studying English as a Medium of Instruction

When asked about the difficulties biology students face, 38.6% of them said they have trouble in understanding complicated vocabulary and grammar, 30.9% said they have issues in expressing their ideas, 29% said they struggle to communicate effectively in English, and 23.6% said they have a lack of self-confidence when speaking the language.

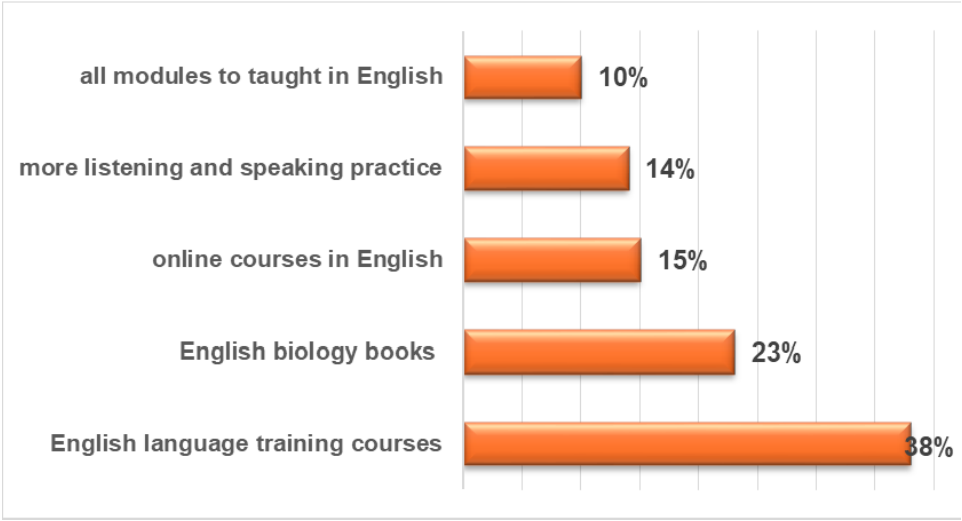


Figure 20. Materials Needed to Improve English Proficiency

The following graph shows that 38% want more English language training courses, 23% of them suggest English Biology books, 15% are interesting in online courses in English, 14% of the participants said more listening and speaking practice, and 10% want all the modules to be taught in English.

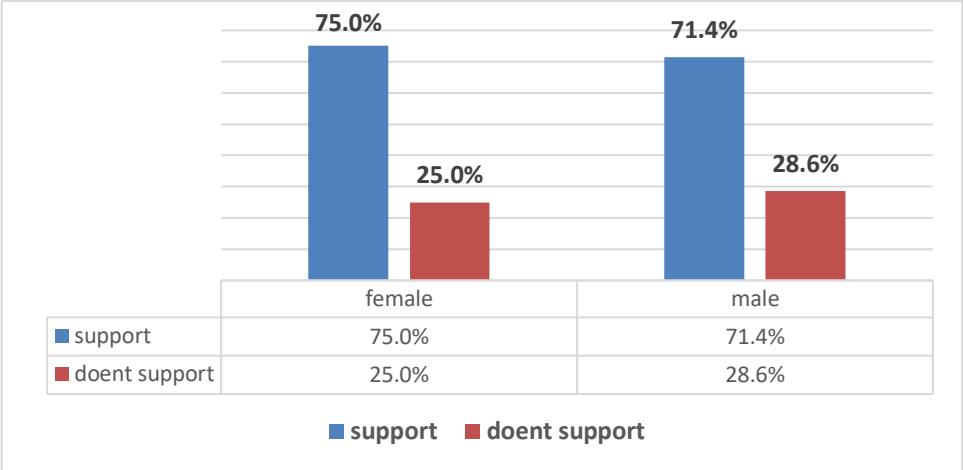


Figure 21. Support of English as Medium of Instruction in Biology Classes

The figure (21) exhibit a slight difference between males and females for their support of English as a medium of instruction. Although the difference is small, 75% of females agree compared to 71.4% of males, but it is not statistically significant with a P value of >0.05.

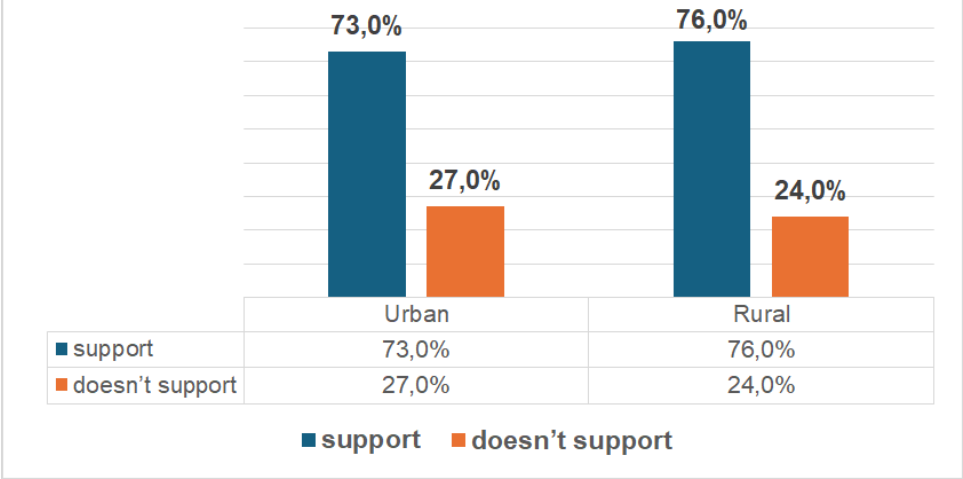
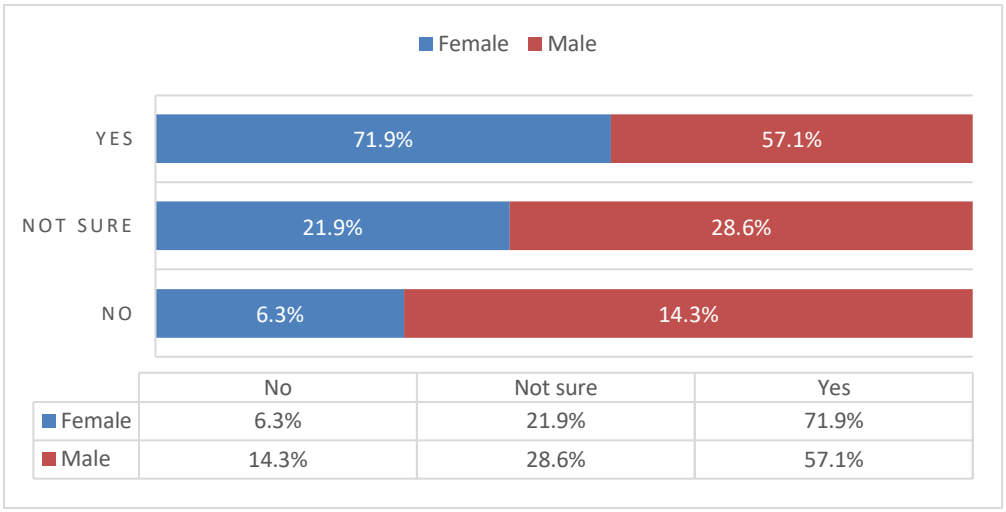


Figure 22. Support of English as a Medium of Instruction by Place of Residence (Urban/Rural)

Figure 22 shows that there is a slight difference 76% vs. 73% between urban students and rural ones with regards to their support of English as medium of instruction. However, the difference is not statistically significant, the P value is >0.05. Thus, the hypothesis is not supported.



	No	Not sure	Yes
Female	6.3%	21.9%	71.9%
Male	14.3%	28.6%	57.1%

Figure 23. English as a Medium of Instruction Improves Education Quality Gender

Compared to 57.1% of male students, a sizable majority of female biology students (71.9%) believe that using English as a medium of instruction raises the standard of instruction. When P is >0.05, the chi-square test shows a statistically significant association.

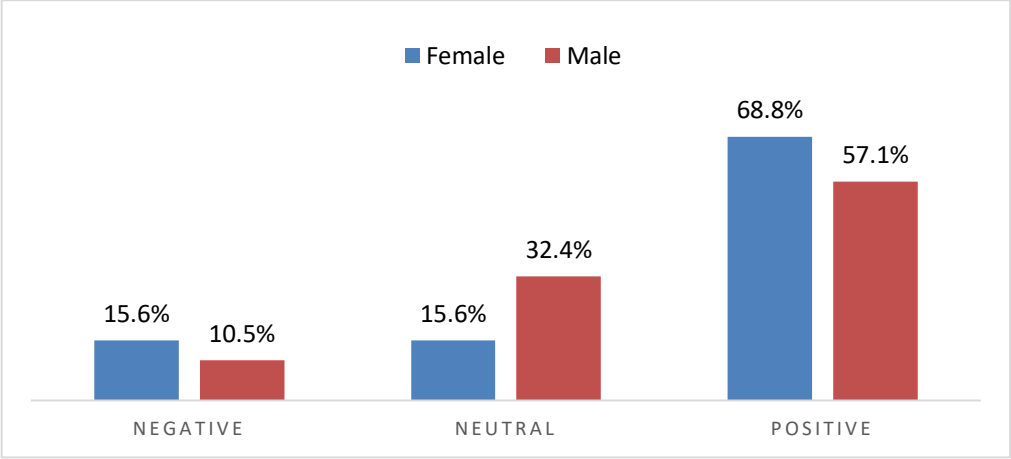


Figure 24. English as a Medium of Instruction Impact and Gender

According to the graph and table 23, a greater proportion of female students—68.8%—than male students—57.1%) believe that using English as the medium of instruction provides advantages.

	Always	Frequently	Never	Occasionally	Rarely
Low	9,1%	10,6%	32,4%	19,8%	26,5%
Medium	12,2%	16,6%	28,2%	24,4%	20,3%
High	15,3%	20,2%	26,5%	25,4	13,1%

Table 13. Using English out of Academic Context by Socio-economic Status

The table 5 reveals that students from higher socio-economic parent classes use English more outside of the classroom than students from medium or lower classes. The data in the accompanying table supports this prediction, showing that 35.5% of high-class students utilize English outside of an academic context, compared to 28.8% and 19.7% of middle- and lower-class students.

2.1.5.2 Discussion of the Questionnaire Results

The purpose of the addressed questionnaire is to determine the scientific students' attitudes towards the efficacy of English as a medium of instruction in their field of study, the efficiency of EMI, its effect on the quality of instruction, and students' perceptions of how the integration of EMI might contribute to the development of Algerian higher education.

The results of students' questionnaire indicate that the majority of the respondents (82%) prefer English as a medium of instruction, 82% represents females. This demonstrates a strong desire and positive attitude towards the language, which remains consistent across diverse socio-economic backgrounds. Findings also show that 77% of participants reside in urban areas; this indicates that the place of residence has a significant effect on the preference of English language.

Among the challenges encountered by students, understanding complicated vocabulary and grammar (38.6%), expressing thoughts and ideas (30.9%) stand out as the main issues. This supports the hypothesis that teachers face challenges in

implementing EMI due to differences in students' English language competence. Furthermore, 54% of participants indicated that they do not consistently use English in the classroom, showing an imbalance between application in practice and preference. In order to bridge this gap and enhance students' language proficiency, more thorough English language training programs are required.

Despite these difficulties, the majority of participants 67% believe that studying Biology in English has a beneficial impact on their schooling as it is revealed in figure (14) in which they were asked about their attitudes towards English. Moreover, 69% of the respondents said that English does enhance educational quality as it is shown in figure (15), this aligns with the hypothesis that the majority of scientific students hold positive attitudes towards EMI due to its international significance. Additionally, when participants were asked about reasons for agreeing English improves education quality, almost half of the participants 47% said that English is an international language that is essential to the advancement of research and education, demonstrating the significance people attribute to it in both professional and academic domains.

Overall, even if there is a lot of support for using English as a teaching language, implementing it requires resolving the difficulties encountered by both instructors and students. Ensuring that both groups (teachers and students) have adequate training and resources is crucial for effectively incorporating English into scientific education, ultimately raising the standard of education and giving students more options for professions.

2.1.5.3 Interview Analysis

Q1: Which language do you prefer to use in teaching?

Teacher 1: French language, because i have studied in French, and feel more comfortable conveying knowledge and interacting with my students effectively, teaching in another language would be too difficult for me. The important thing is that I can communicate clearly and effectively with my students to facilitate their learning.

Teacher 2: a combination between Arabic and French language, because I do not master English.

Teacher 3: English language, because it is the language of science.

Teacher 4: French language, because it is a habit.

Teacher 5: French language, because all my studies are in French.

Teacher 6: French language, because it is a habit, and I have been formed in French.

Teacher 7: French language, because I master it better than other languages.

Teacher 8: French language, because I have been trained in French at university.

Teacher 9: a combination between Arabic and French language, since all students are familiar with Arabic, especially for scientific subjects such as physics, natural sciences, mathematics, I prefer to use Arabic and French, because in some situations, French is more commonly used than English.

Comment 1: The objective of this question is to determine the preferred teaching language used by higher education teachers in the scientific stream. Six interviews prefer French language, one teacher prefers English, while another teacher prefers Arabic. Additionally, one teacher prefers a combination of Arabic and French.

Q2: What are the advantages of adopting English as a medium of instruction in tertiary level?

Teacher 1: Access to a global knowledge base, preparation for a national career, and attractiveness to international students.

Teacher 2: No advantage.

Teacher 3: Global engagement.

Teacher 4: English language instruction attracts students from around the world.

Teacher 5: Scientific research in English.

Teacher 6: An international language.

Teacher 7: Reaching the international level.

Teacher 8: The University is not ready to provide instruction in English.

Teacher 9: English language gives graduate and postgraduate students the opportunity to communicate with peers in any country where English is widely spoken.

Comment 2: Multiple viewpoints regarding the use of English as a medium of instruction are reflected in the interview answers. Several educators emphasized the benefits of interacting with the international academic community, strengthening research capacities and attracting foreign students. On the other hand, some educators questioned the overall benefits and expressed doubts about the university's preparedness. The diversity of perspectives suggests that while English can significantly enhance academic advancement and globalization, there are important obstacles to its effective use.

Q3: What is your attitude toward using English as a medium of instruction?

Attitudes	Number f teachers
Positive	**4**
Negative	**4**
Neutral	**1**

Table 14. Attitudes Towards English as a Medium of Instruction

Comment 3: The answers to the above question reveal a range of perspectives and attitudes among the teachers; some are positive, some are negative, and one neutral. This diversity highlights the complexity of opinions regarding the use of English in higher education. Positive reactions could be motivated by the possibility of international participation and academic advancement, while negative ones could be a reflection of worries about preparation and language challenges.

Q4: Do you agree with the use of English in scientific fields?

Teacher 1: yes, because English is a global language and is widely used in research, publications, and academic communication. It promotes mutual understanding across a range of scientific domains and fosters international collaboration.

Teacher 2: No, because English might be hard for learners who do not speak English well, which restricts their learning opportunities.

Teacher 3: Yes, because English is an easy and widely spoken language globally.

Teacher 4: Yes, but gradually.

Teacher 5: Yes, but not at this moment.

Teacher 6: Yes, because it helps align the educational system with global standards.

Teacher 7: Yes, to join the international community.

Teacher 8: Yes, because all international publications and research projects are conducted in English; therefore, we have to use it in scientific research.

Teacher 9:Yes, to enable international exchange experiences for both students and teachers in all scientific fields.

Comment 4: The aim behind this question is to know whether teachers agree on using English in scientific fields. Some educators said yes, noting the fact that English is frequently utilized in research and facilitates international collaboration.

Q5: As a French-language instructor, what challenges may you face when using English language?

Teacher 1: Language proficiency, pronunciation, academic writing, and confidence, in addition to continuous translation between English and French which requires an extra effort.

Teacher 2: A difficulty in explaining the lecture and conveying the information.

Teacher 3: I do not master the language.

Teacher 4: A difficulty in conveying the information.

Teacher 5: For me, there is no difficulty.

Teacher 6: Difficulty of the language.

Teacher 7: I have a lack of language proficiency and a poor vocabulary.

Teacher 8: The students do not understand the lecture in English language.

Teacher 9: I found some difficulties in explaining detailed information in English, compared to French or Arabic.

Comment 5: This question is set to identify the difficulties that French-language educators encounter when using English. Teachers emphasized issues such as communication effectiveness and language competency. While only one teacher is confident in his language skills.

Q6: What are you expectations concerning the difficulties students might face when using English as a medium of instruction?

Teacher 1: Difficulty in comprehension, lack of vocabulary and grammar.

Teacher 2: It is very difficult for the students to understand the lectures in English.

Teacher 3: In the beginning, things will be difficult for them; but over time, there will be smoothness.

Teacher 4: English language is very difficult for them.

Teacher 5: Students are not ready to study in English.

Teacher 6: Very difficult.

Teacher 7: The level of students is very low in English.

Teacher 8: The incompetence of students in oral and written expression, whether it is in Arabic, French or English. The Algerian school has failed.

Teacher 9: The students are not completely prepared to use English frequently and easily at the present time; however, they may become more familiar with English language in the future.

Comment 6: This question is set to know the challenges students may face when using English as a medium of instruction. Responses differ, reflecting a range of issues, from specific ones like vocabulary and comprehension to more general concerns about students' preparedness and the perceived difficulty of English. While some educators are optimistic about development over time, others draw attention to current issues and even criticize the educational system.

Q7: According to you, what plans and suggestions, if any, are there to improve the integration of English as a medium of instruction in scientific fields?

Teacher 1: Creating a specific curriculum aimed at teaching students scientific terminology in English, and encouraging students to carry out research and write reports in English on subjects related to their academic specialties.

Teacher 2: The students need more trainings abroad to better learn the language, they also need time.

Teacher 3: Providing research assignments to students to be written in English.

Teacher 4: Implementing gradually the English language.

Teacher 5: English should be taught from elementary school.

Teacher 6: We need time.

Teacher 7: Providing training programs for teachers to improve their ability to teach scientific subjects in English.

Teacher 8: I do not see any suggestions; the only way is to reinforce language teaching starting from elementary school.

Teacher 9: The library must be enriched with English handbooks, guidelines, and textbooks in various fields, organizing scientific exchanges such as online participation in scientific events organized by English-speaking faculties.

Comment 7: This question represents the acceptance of English as a language of instruction in Algerian higher education in scientific fields, interesting suggestions and opinions were expressed by the educators. Some of them suggested introducing English progressively starting in primary school, and creating courses and modules with the objective of improving students' English language proficiency. Another interesting suggestion is the formation of alliances and cooperation between universities in Algeria and English-speaking universities.

2.1.5.4 Discussion of Interview Results

The main goal of the interview is to find out whether Algerian universities are prepared to accept EMI for scientific streams. The interviews focused on several important aspects: the preferred languages for teaching scientific subjects in higher education, attitudes towards English as medium of instruction, and the identification of obstacles and possible strategies for successfully implementing English-medium instruction. The majority of the interviewees said that they prefer to teach in French, although a small percentage indicated that they prefer English or Arabic, with one suggesting a combination of Arabic and French.

The responses showed a range of viewpoints regarding the use of EMI. While some instructors emphasized its benefits for encouraging global academic participation, improving research capabilities and drawing in international students, others raised concerns about the university preparedness and possible challenges to successful implementation. This diversity highlights the complexity of viewpoints regarding the integration of English in higher education, with positive expectations and the belief that it will help globalization and academic progress, and negative opinions driven by concerns about readiness and difficulties with language skills. Opinions among teachers regarding the acceptance of English in scientific subjects differ. Some of them supported the idea, pointing out its widespread use in research, and how it facilitates international collaboration. Conversely, French-language educators raised concerns about things like language competency and effective communication, with only one teacher exhibiting confidence in their mastery of the English language.

Responses to the difficulties that students may face when using EMI revealed a number of issues, ranging from specific language barriers, to more general concerns about students' readiness and the perceived difficulty of the English language. While some educators were optimistic about future advancements that might occur, others emphasized the difficulties that still facing the school system and criticized its current state.

In terms of suggestions and ideas, educators proposed several strategies to improve students' English language skills and promote acceptance of EMI. These

included creating specialized courses and modules to enhance pupils' language proficiency, introducing English gradually starting in primary school, and encouraging collaboration between Algerian universities and English-speaking institutions. These recommendations highlight the significance of taking preventative measures to deal with language obstacles.

2.2 Conclusion

This chapter represents the fieldwork of this study. It attempted to address the methods that were used to evaluate the attitudes and language use of 1st, 2nd, and 3rd year Biology students. The study's population is split into two: L1, L2, and L3 Biology students, and nine teachers that belong to the same stream. Two research instruments were undertaken in this investigation, students' questionnaire, and teachers' interview. To summarize, the study's findings demonstrate teachers and students' awareness of the global status of English and their prediction that it will surpass their mother tongue as the most widely spoken language in Algeria across all domains. The findings strongly supported teachers and students' awareness about the significance of English globally, as well as their positive views toward its application.

General Conclusion

Globalization has a great impact in the spread of English worldwide. One of the main objectives of the educational system in this new era is to equip students with the ability to use English proficiently to meet international standards. From the ancient time, Algerians have used Arabic and French as their primary languages for political and historical reasons. Lately, Algerians and specifically students have shown an interest towards the English language, and it is essential to consider their attitudes to figure out the status of English in Algeria. The aim of this study was to determine the attitudes of students towards English. Simultaneously, the motivations behind their attitudes were examined.

Therefore, the current study was split into two chapters, the first one has covered the theoretical background of the investigation, it emphasized the mains concepts related to the topic, it also highlighted the sociolinguistic situation of Algeria. In the second chapter, the researcher supplied an overview of attitudes towards English and its standing in Algeria, in addition to providing answers to the questions and confirming the correctness of the hypotheses.

The results of the study strongly support the first hypothesis, which suggested that the majority of scientific students and teachers hold positive attitudes towards English as a medium of instruction because of its international and global significance in various fields. The data collected through questionnaires demonstrated that the majority of respondents 82% (figure 8) expressed a preference for English, highlighting its significance in their careers and academic studies. Additionally, confirming the first hypothesis, the questionnaire's findings showed that the majority 33% (figure 9) of the participants preferred a combination of English and Arabic for instruction in Biology, while 20% (figure 9) preferred studying entirely in English. This implies that people are aware of the benefits of English in improving academic opportunities and accessing to a wider range of scholarly resources. Moreover, 74% (figure 10) of participants supported the implementation of EMI, demonstrating more encouragement for its integration into the educational system. These findings confirmed the first hypothesis.

The second hypothesis suggested that teachers face different challenges in implementing English as a medium of instruction, including inadequate training, lack of resources, and differences in students' English language competence. The study's findings reveal that while there is a positive perception towards English, there still some major obstacles during its implementation. As shown in (figure 19), 54% of participants said they do not use English consistently in classroom, and only 3% use it frequently. The highlighted challenges include inadequate training for teachers, lack of educational resources, and differences in students' levels, indicate a need for more support and resources to effectively implement English in educational settings. Therefore, the second hypothesis is confirmed, as the results highlight the actual obstacles instructors face when implementing English as teaching language.

The third hypothesis proposed that EMI enhances educational quality by providing access to a greater variety of scholarly resources and global academic materials. The data support the hypothesis, the majority of participants, 69% believe that English improves educational quality (figure15). They mentioned some reasons for instance the universality of the language, its role as a communication tool, also its contribution in promoting education and research. As it is shown in in figure (18) of Biology students acknowledged that using English gives them access to more academic resources, and 27% mentioned that learning English enhanced their capacity to communicate with individuals globally. Furthermore, 24,2% of the participants believe that English language proficiency improves employments opportunities and career prospects. These findings support the third hypothesis.

With no doubt, this research also had limitations; it only looks at one department where efforts are being made to use English as the primary language of instruction. Additionally, the small sample size limits the generalizability of the results.

This research work may provide a solid foundation for future studies. Other researchers might build upon or draw ideas from the key elements and expand them further.

BIBLIOGRAPHY

Bibliography

Allport, G. W. (1935). Attitudes. In C. Murchison (Ed.). *Handbook of social psychology*. Worcester, MA: Clark University Press.

Berrahma, M. (2018). *Parents' Attitudes towards Introducing English in the Algerian Primary School.* Tlemcen University.

Bloomfield, L. (1933). *Language*. New York: Holt, Rinehart and Winston.

Canagarajah, S. (2018). Translanguaging pedagogy and the challenges of multilingual education in postcolonial contexts. *Critical Multilingualism Studies*, 6(1), 1-19.

Chejne, A. G. (1965). Arabic: Its significance and place in Arab-Muslim society. *The Middle East Journal*, 447-470.

Chelli, A. (2017). *Research Methods: A Practical Guide for Students and Researchers.* World Scientific Publishing.

Chemami, M. A. (2011). Discussing plurilingualism in Algeria:The status of French and English languages through the educational policy. *International Journal of Arts & Sciences*, 4(18), 227.

Cohen, L., Manion, L., & Morrison, K. (2000). *Research methods in education* (5thEd.). Routledge.

Cooper, J., Blackman, S., & Keller, K. (2016). *The science of attitudes*. Routledge.

Costa, F., & Coleman, J. A. (2013). *A survey of English-medium instruction in Italian higher education. International Journal of Applied Linguistics,* 165(1), 93-121.

Crystal, D. (1992). *Introducing Linguistics.* Penguin English Linguistics

Crystal, D. (2003). *English as a global language* (2nd Ed.). Cambridge university press.

BIBLIOGRAPHY

Cummins, J. (1979). Cognitive/academic language proficiency, linguistic interdependence, the optimum age question and some other matters. *Working Papers on Bilingualism, 19, 121-129.*

Cummins, J. (1979). Linguistic interdependence and the educational development of bilingual children. *Review of Educational Research,* 49(2), 222-251

Cummins, J. (2000). *Language, power, and pedagogy: Bilingual children in the crossfire. Bilingual Education and Bilingualism: 23.*

Cummins, J. 2001. Instructional conditions for trilingual development. *International Journal of Bilingual Education and Bilingualism, 4(1):61–75*

Djennane, T. (2016). Language planning and education issues in Algerian higher studies: Attitudes towards Arabic and French in scientific streams. Unpublished Doctoral thesis. Tlemcen University.

Dörnyei, Z. (2003). *Questionnaire in second language research: Construction, administration, and processing.* Lawrence Erlbaum Associates.

Eagly, A. H., &Chaiken, S. (1993). *The Psychology of Attitudes*. Harcourt Brace Jovanovich College Publishers.

Ferguson, C. A. and Gumperz, J. J. (Eds) (1960) *Linguistic diversity in South Asia*. Bloomington; Research Center in Anthropology, Folklore and Linguistics; Ind. Univ.

Gardner, R. C. (1960). *Motivational variables in second language acquisition*; [PhD thesis, McGill University]

Gardner, R. C., & Lambert, W. E. (1959). Motivational variables in second-language acquisition. *Canadian Journal of Psychology/Revue canadienne de psychologie, 13 (4), 266–272*.

Hall, D. (2001). *Assessing the Needs of Bilingual Pupils: Living in Two Languages.* London: David Fulton Publishers.

Haugen, E. (1953). *The Norwegian Language in America: A Study in Bilingual Behavior.* Philadelphia, University of Pennsylvania Press, 1953.

Johnson, B., & Christensen, L. (2000). *Educational Research: Quantitative and Qualitative Approaches.* London: Allyn & Bacon

Li, D. C. S. (2019). *English as a medium of instruction: Voices from Hong Kong. Language, Culture and Curriculum, 32(1), 1-16.*

McKenzie, R. M. (2008). Social factors and non-native attitudes towards varieties of spoken English: a Japanese case study. *International journal of applied linguistics, 18(1),* 63-88.

Miliani, M. (2000). Teaching English in a Multilingual Context: The Algerian Case. *Mediterranean Journal of Educational Studies, 6(1),* 13-29."

Miller, J., &Glassner, B. (1997). The inside and the outside: Finding realities in interviews. In D.Silverman (Ed.), *Qualitative research: Theory, method and practice.* SAGE Publications.

Risjord, M., Moloney, M., & Dunbar, S. (2001). Methodological triangulation in nursing research. *Philosophy of the Social Sciences. 31, 1,* 40-59

Sarnoff, 1: (1970). Social attitudes and the resolution of motivational conflict. In M. Jahoda & N. Warren (Eds.), *Attitudes*. Harmondsworth, UK: Penguin

TalebIbrahimi, K. (1997). *Les Algériens et leur(s) langue(s):Eléments pour une approche sociolinguistique de la société Algérienne.*Les Editions El Hikma, Alger.

Tashakkori, A., & Teddlie, C. (1998). Mixed methodology: Combining qualitative and quantitative approaches. Thousand Oaks, CA: Sage.

Weinreich, U. (1979). *Languages in Contact: Findings and Problems* (Original work published 1953). New York: Mouton Publishers.

Wilkinson, R., &Zegers, P. (2019). English-medium instruction in Chilean universities: Students' perspectives on benefits and challenges. *Latin American Journal of Content and Language Integrated Learning, 12(1),* 67-86.

Zughoul, M. R. (2003). *Globalization and EFL/ESL pedagogy in the Arab World.*

Webliography

Grandguillaume, G. (2004). *La Francophonie en Algérie. Hermès, La Revue,* 40(3), 75-78. https://www.cairn.info/revue-hermes-la-revue-2004-3-page-75.htm.

Hamers, J. F. & Blanc, M. H. A. (2000). *Bilinguality and Bilingualism*. (2nd Ed.). Cambridge University Press.

https://www.mustgo.com/worldlanguages/arabic-modern-standard/

MustGo.com. (2014-2024). *Modern Standard Arabic.* MustGo.com.

Appendix ‘A’

Students’ Questionnaire

Students' questionnaire

Dear participants,

This questionnaire is designed to collect data about teachers' and students' attitudes towards English as a medium of instruction (EMI) at Biology department. Therefore, you are kindly requested to answer this questionnaire, and bear in mind that your answers will remain anonymous and will be used for the sake of research only. Thanks in advance for your cooperation

1- **Gender :** Male☐ Female☐

2- **Educational level :** L1☐ L2☐ L3☐

3- **Where do you live?**

In rural area ☐ In urban area ☐

4- **What is your parents' socio-economic status?**

High ☐ Medium ☐ Low ☐

5- **What is your father's educational level?**

Primary level☐ Middle school level☐ High school level☐ University level Uneducated☐

6- **What is your mother's educational level?**

Primary level☐ Middle school level☐ High school level☐ University level Uneducated☐

7- **Among these languages, which one you would like to learn the most?**

English ☐ French ☐ Spanish ☐

8- **Do you prefer Biology lectures to be taught in:**

Entirely in English language☐

Entirely in Arabic language ☐

Entirely in French language ☐

A combination of English and Arabic languages☐

A combination of French and Arabic languages ☐

A combination of Arabic, English and French languages ☐

9- Are you with or against the implementation of English as a medium of instruction in scientific fields?

With ☐ Against ☐

Why ?

……..

10-How often do you teachers use English as a medium of instruction in classroom?

Always ☐ Frequently ☐ Occasionally ☐ Rarely ☐ Never ☐

11-If your answer is 1 or 2 or 3, how many modules do you study in English?

1 ☐ 2☐ 3☐ 4☐

12-How often do you use English out of your academic context?

Always ☐ Frequently ☐ Occasionally ☐ Rarely ☐ Never ☐

13-How do you perceive the impact of using English as a medium of instruction on your studying experience in Biology?

Positive ☐ Negative ☐ Neutral ☐

14-Do you believe that using English as a medium of instruction improves overall educational quality?

Yes ☐ No☐ Not sure ☐

Why?

……..

15-In your opinion, what are the advantages of using English as a medium of instruction?

Access to a wider range of resources ☐

Preparation for a global communication ☐

Enhanced career opportunities ☐

16-What are the challenges or difficulties you face when studying scientific courses in English?

Communicating effectively in English ☐

Difficulty in expressing thoughts and ideas ☐

Understanding complex words and grammar ☐

Lack of confidence when speaking English ☐

17- What materials or resources would you need to improve your English proficiency for tudying Biology in English?

……...

Appendix ‘B’

Teachers’ Interview

Dear professors

This questionnaire has been designed to collect data on the opinions of teachers and students regarding the use of English as a medium of instruction in the Department of Biology. We kindly request you to answer this questionnaire, and please remember that your responses will remain anonymous and will be used solely for research purposes. Thank you in advance.

Q1: Which language do you prefer to use in teaching?

Q2: What are the advantages of adopting English as a medium of instruction in tertiary level?

Q3: What is your attitude toward using English as a medium of instruction?

Q4: Do you agree with the use of English in scientific fields?

Q5: As a French-language instructor, what challenges may you face when using English language?

Q6: What are you expectations concerning the difficulties students might face when using English as a medium of instruction?

Q7: According to you, what plans and suggestions, if any, are there to improve the integration of English as a medium of instruction in scientific fields?

ملخص

الوضع اللغوي في الجزائر يتميز بتنوعه الواسع، حيث تخدم كل لغة أغراضًا محددة وتتمتع بأهمية داخل المجتمع اللغوي. تُعتبر اللغة الإنجليزية عالميًا كلغة العلم والتطور، وقد تناولت العديد من الدراسات وضعها في الجزائر. يهدف هذا البحث إلى تسليط الضوء على مواقف المعلمين والطلاب تجاه استخدام اللغة الإنجليزية كلغة تعليمية. لاكتشاف هذه المواقف، استخدم الباحث استبيانات ومقابلات كأدوات بحثية. تم توزيع الاستبيانات على 45 طالبًا في قسم علوم الحياة، في حين أُجريت المقابلات عبر الإنترنت مع 9 مدرسين في نفس المجال الأكاديمي. كشفت البيانات المجمعة أن غالبية الطلاب يحملون مواقف إيجابية تجاه اللغة الإنجليزية. وأظهرت النتائج أن مكانة اللغة الإنجليزية في الجزائر في ارتفاع مستمر. وقد استنتجت الدراسة أن العوامل التاريخية والاجتماعية والنفسية هي التي تقف وراء هذه المواقف الإيجابية للطلاب تجاه اللغة الإنجليزية كلغة تعليمية.

Summary

The linguistic situation in Algeria is strongly characterized by its diverse varieties, each serving distinct purposes and holding significance within the speech community. English is globally recognized as the language of science and development. It has been the subject of numerous investigations regarding its status in Algeria. This research aims to illuminate the attitudes of teachers and students towards English as a medium of instruction. To explore these attitudes, the researcher employed questionnaire and interviews as research instruments. The questionnaires were distributed to (45) scientific students from Biology department, while online interviews were conducted to (09) teachers from the same academic stream. The data gathered reveals that the majority of students hold positive attitudes towards English. The results demonstrated that the status of English in Algeria is increasing. Another finding is that the reasons behind students' positive attitudes towards English as medium of instruction are due to historical, social, and psychological factors.

Résumé

La situation linguistique en Algérie se distingue par sa grande diversité, chaque langue servant à des fins spécifiques et revêtant une importance au sein de la communauté linguistique. L'anglais est mondialement reconnu comme la langue de la science et du développement, et son statut en Algérie a fait l'objet de nombreuses études. Cette recherche vise à éclairer les attitudes des enseignants et des étudiants envers l'utilisation de l'anglais comme langue d'enseignement. Pour explorer ces attitudes, le chercheur a utilisé des questionnaires et des entretiens comme outils de recherche. Les questionnaires ont été distribués à 45 étudiants du département de biologie, tandis que des entretiens en ligne ont été menés avec 9 enseignants du même domaine académique. Les données recueillies révèlent que la majorité des étudiants ont une attitude positive envers l'anglais. Les résultats montrent que le statut de l'anglais en Algérie est en augmentation. L'étude a conclu que les facteurs historiques, sociaux et psychologiques contribuent aux attitudes positives des étudiants envers l'anglais comme langue d'enseignement.