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**Faculty of Letters and Languages  
Department of English**

**Bridging Language Barriers: An Introduction of Medical English, Case  
of Biomedical Sciences (Medical, pharmacy and dentistry students) at  
Tlemcen University**

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the requirements for Master degree in Didactics*

**Presented by**

Ms. BENABDALLAH Sarra

**Supervised by**

Dr.ABDAT Yassamina

**Board of Examiners**

Pr. DJEBBARI Zakia

Prof

President

Dr.ABDAT Yassamina

MCA

Supervisor

Dr. ABI AYAD Maliha

MCA

Examiner

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## ***Dedication***

*Praise be to **ALLAH** who offered me the gift of health, patience and knowledge.*

*I dedicate this work firstly to my parents and my dear husband, whose unwavering love and sacrifices have been my foundation throughout this Master's journey. To my family, whose support has been a constant source of strength. To my friends, whose encouragement and belief in me have been invaluable. And to my professors and mentors, whose wisdom and guidance have made this achievement possible*

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## ABSTRACT

Medical English, a specialized branch of English for Specific Purposes (ESP), plays an increasingly vital role in global medical communication, research, and education. In Algeria, however, medical faculties continue to rely predominantly on French, creating significant linguistic barriers for students aiming to engage with international academic and professional contexts. This study investigates the potential for integrating Medical English into the curriculum at Abou Bakr Belkaid Tlemcen University more precisely faculty of Medicine and explores the challenges that hinder its effective implementation. The research examines both theoretical frameworks and field-based data to assess the institutional, pedagogical, and linguistic factors influencing the adoption of English in medical education. It draws from applied linguistics and language acquisition theory, particularly Guy Cook's emphasis on meaningful input and contextual learning. A qualitative methodology was used, combining questionnaires and interviews with students and teachers respectively to gain insight into their experiences, perceptions, and expectations. The findings reveal that while both groups recognize the importance of English for medical success, efforts are undermined by limited curriculum time, insufficient teacher training, and inconsistent language policies. Comparative insights from English-medium Russian universities, along with a linguistic analysis of English-French medical terminology, further support the argument for a bilingual, progressive approach. By combining practical suggestions with theoretical perspectives, this study aims to contribute to curriculum development efforts that promote Medical English in Algerian universities. It emphasizes the need for reforming strategies that are context-sensitive, linguistically informed, and globally relevant, ultimately helping bridge the gap between local medical education and international professional standards.

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*List of abbreviations and acronyms*

<b>Acronym</b>	<b>Full Form</b>
<b>CLIL</b>	Content and Language Integrated Learning
<b>DSL</b>	Digital Subscriber Lines
<b>ELT</b>	English Language Teaching
<b>EMP</b>	English for Medical Purposes
<b>IHEP</b>	The Institute for Higher Education Policy
<b>ICT</b>	Information and Communication Technologies
<b>L2</b>	Second Language
<b>LMS</b>	Learning Management Systems
<b>LMD</b>	License, Master, Doctorate
<b>MESR</b>	The Ministry of Higher Education and Scientific Research
<b>MOODLE</b>	Modular Object-Oriented Dynamic Learning Environment
<b>MRI</b>	Magnetic Resonance Imaging
<b>MPTIC</b>	Minister of Posts and Information and Communication Technologies
<b>UFC</b>	University of Continuing Education

## **Introduction to the Chapter**

This introductory chapter lays the foundation for the present study by outlining its central focus, motivation, and academic relevance. It begins by situating the research within the broader context of global language use in medical education, particularly the growing importance of English for Medical Purposes (EMP) in non-Anglophone countries such as Algeria. The chapter proceeds to define the research problem, formulate research questions and hypotheses, and state the objectives guiding the investigation. It also highlights the significance of the study in relation to curriculum development and language policy, provides an overview of the adopted methodology, and briefly describes the structure of the thesis.

## **General introduction:**

### **Background of the study**

English has become the global lingua franca of science, medicine, and international academic discourse. In the medical field in particular, proficiency in English is essential for accessing up-to-date research, understanding medical equipment, publishing in scientific journals, and participating in global forums. English for Medical Purposes (EMP), a branch of English for Specific Purposes (ESP), addresses the specialized linguistic needs of medical professionals and students. While many countries have adopted English-medium modules in their medical curricula, Algeria continues to rely heavily on French, which creates a linguistic and professional gap for students entering a globalized workforce.

### **Statement of the problem**

Despite the increasing importance of English in global medical contexts, Algerian medical students receive minimal exposure to Medical English during their academic training. The absence of structured EMP instruction in the

Algerian curriculum limits students' ability to engage with international content and reduces their readiness for postgraduate studies, research, or clinical practice abroad. This gap highlights the need for curriculum reform, teacher training, and applied linguistic strategies tailored to medical education.

### **Objectives of the study**

The study aims to:

- Explore students' and teachers' perceptions of Medical English.
- Identify the main obstacles to EMP implementation in Algeria.
- Provide practical suggestions for curriculum design and classroom application.
- Connect findings to applied linguistics and language acquisition theory.

This research contributes to ESP and language policy in Algerian higher education. It provides practical strategies to improve Medical English instruction and supports efforts to internationalize Algerian medical training. The research adopts a qualitative approach. Data were collected through a student questionnaire and teacher interviews conducted at the Faculty of Medicine, Tlemcen University.

Chapter one is a general introduction Chapter Two presents the theoretical background and literature review. Chapter three details the research design, tools, and fieldwork findings. Chapter Four discusses challenges, limitations, international models, and suggestions for curriculum improvement. The study concludes with final reflections and recommendations.

### **Significance of the study**

This research contributes to ESP and language policy in Algerian higher education. It provides practical strategies to improve Medical English instruction and supports efforts to internationalize Algerian medical training.

### **Research Questions and Hypotheses**

This study is guided by the following research questions:

1. How do students at Tlemcen University, Biomedical Sciences perceive the role and usefulness of Medical English in their academic and professional development?
2. What are the main challenges faced in integrating Medical English into the Algerian medical curriculum?
3. What are teachers' attitudes, readiness, and suggestions regarding the introduction of Medical English?
4. How can bilingual or international curriculum models (e.g., Russian universities) inform Algerian practices?

The research is based on these hypotheses:

- Algerian medical students recognize the importance of Medical English but lack adequate instructional support.
- The integration of Medical English into Algerian medical education is hindered by institutional, pedagogical, and linguistic barriers.
- A bilingual, skill-based approach informed by international practices could enhance English acquisition in Algerian medical faculties.
- International curriculum models, such as English-medium instruction used in Russian universities, can serve as effective references for reforming Medical English instruction in Algeria.

## **Methodology Overview**

The research adopts a qualitative and quantitative approaches. Data were collected through a student questionnaire and teacher interviews. As far as students are concerned A total of 100 medical students are participated in the study and 12 teachers from different medical scopes are interviewed where is conducted at the Faculty of Medicine Abou Bakr Belkaid, Tlemcen University.

## **Structure of the dissertation**

Chapter one of this study provides a comprehensive overview of the theoretical framework and an extensive review of relevant literature. This foundational chapter aims to contextualize the research within existing scholarly discourse, elucidating key concepts, theories, and prior empirical findings pertinent to the study's focus. It critically examines previous research efforts, identifies gaps in the current knowledge base, and establishes the conceptual underpinnings that guide the subsequent investigation. Chapter two delineates the research methodology employed in this study. It offers a detailed account of the research design, including the selection criteria for participants, data collection instruments such as questionnaires and interviews, and procedures followed during fieldwork. The chapter also presents an analysis of the data collected, demonstrating that the hypotheses posited at the outset are supported by empirical evidence gathered through these methods. This section underscores the rigor and validity of the research process, ensuring transparency and reproducibility. Chapter three engages in a critical discussion of various challenges encountered during the research process, as well as limitations inherent to the study's scope and methodology. It further explores international models relevant to curriculum development and reform, providing comparative insights that inform local educational practices. Based on these analyses, this chapter offers practical suggestions aimed at enhancing curriculum design and

implementation. The concluding section synthesizes key findings from all chapters, reflecting on their implications for theory and practice. It also presents targeted recommendations for policymakers, educators, and stakeholders involved in curriculum development. The study ultimately aims to contribute valuable insights to both academic scholarship and practical applications within educational settings.

In sum, this introductory chapter has presented the background, rationale, and significance of the study, along with its main objectives, research questions, and hypotheses. It has highlighted the pressing need to introduce Medical English in Algerian medical education and justified the relevance of exploring this issue within the applied linguistics and ESP frameworks. By outlining the adopted methodology and providing an overview of the thesis structure, the chapter sets the stage for the detailed theoretical, analytical, and pedagogical discussions developed in the chapters that follow.

**Chapter Two**  
**Literature Review**

### 1.1 Introduction

In an era of globalized healthcare, the ability to communicate in English has become a vital skill for medical professionals. As the dominant language in scientific research, education, and international collaboration, English is essential for doctors, nurses, and researchers across the world (Crystal, 2003). This has led to the development of English for Medical Purposes (EMP), a branch of English for Specific Purposes (ESP), which focuses on the unique linguistic needs of healthcare professionals (Hutchinson & Waters, 1987; Dudley-Evans & St John, 1998).

The importance of EMP is particularly evident in the context of medical research and clinical practice, where most academic publications, conferences, and medical technologies are in English (Paltridge & Starfield, 2013). Non-English-speaking professionals often struggle to access the latest scientific developments due to language barriers (Ferguson, 2013), a challenge that is especially pressing in Algeria, where English is not the main language of instruction (Benrabah, 2007; Ziani, 2018).

This chapter provides a comprehensive review of the literature related to the role of English in global and Algerian medical education. It begins by exploring the global importance of English in medicine and its impact on non-English-speaking professionals. It then turns to the current situation of medical education at Tlemcen University, highlighting gaps in EMP instruction. The chapter also examines approaches for integrating Medical English in higher education, global models for EMP instruction, and the potential benefits and challenges of such integration in the Algerian context.

### **Bridging the Gap with EMP**

To address the language gap faced by Algerian medical students, universities must take stronger steps to enhance their English for Medical Purposes (EMP) programs. EMP goes beyond teaching general English it is tailored to the specific communicative needs of medical students and professionals. It involves developing the ability to read and understand medical literature, write scientific articles, interact with patients and colleagues in English, and follow international medical guidelines (Anthony, 2018). A strong EMP curriculum typically includes terminology acquisition, listening to authentic materials such as doctor-patient dialogues, and practicing writing in clinical contexts.

Adopting global models that have proven effective in other countries especially those where English is not the native language could provide a roadmap for Algeria. This includes using case-based learning, problem-solving sessions, and interdisciplinary teaching, where EMP is taught alongside core medical content (Basturkmen, 2010). In addition, faculty members must receive proper training so they can confidently deliver lessons in English and support students through guided practice. Integrating EMP into Algerian medical curricula in a structured and consistent way would not only help students gain confidence but also equip them to function professionally in a globalized medical environment (Ferguson, 2013).



## **1.2 English as a Global Language: General Importance and Medical Relevance**

English is widely recognized as the dominant global language, playing a crucial role in various fields, including medicine. Its rise to prominence is largely due to historical, economic, and technological factors that have positioned it as the primary language for international communication (Hutchinson & Waters, 1987; Ferguson, 2013).

In the medical field, English serves as the standard for research publications, professional training, and cross-border collaboration (Basturkmen, 2010; Anthony, 2018). Healthcare professionals worldwide rely on English to access medical literature, participate in global conferences, and engage with international medical communities (Bosher & Smalkoski, 2002; Swales, 1990).

The influence of English extends beyond academia and into clinical practice, where it is used for patient records, medical guidelines, and pharmaceutical documentation (Candlin & Candlin, 2003; Benrabah, 2007). As a result, even in non-English-speaking countries, medical professionals must acquire a strong command of English to ensure effective patient care and professional growth (Ziani, 2018; Kheladi, 2015).

Given its status as the lingua franca of medicine, English proficiency is essential for medical students and practitioners in Algeria, where French has traditionally dominated the healthcare sector (Bouabdesselam, n.d.; Chachou, 2016). To keep pace with global medical advancements, Algerian universities must integrate English into medical curricula, preparing students for both local and international medical environments (Dudley-Evans & St John, 1998; Flowerdew & Peacock, 2001).

### 1.2.1 The Importance of English in the Global Medical Field

English has become the dominant language of communication in the medical field, influencing education, research, and clinical practice worldwide (Crystal, 2003; Paltridge & Starfield, 2013). It serves as the primary medium for publishing medical research, facilitating collaboration between international healthcare professionals and allowing access to the latest scientific advancements (Ferguson, 2013; Anthony, 2018).

In medical conferences, journals, and professional training, English is the most widely used language. Leading publications such as *The Lancet* and *The New England Journal of Medicine* published exclusively in English, requiring researchers and practitioners to develop English proficiency to stay updated with global medical advancements (Basturkmen, 2010; Hutchinson & Waters, 1987).

Beyond academic settings, English is also essential in clinical environments. Many multinational hospitals, pharmaceutical companies, and medical device manufacturers operate using English-based systems (Candlin & Candlin, 2003; Swales, 1990). Medical professionals in non-English-speaking countries often encounter English-only instructions on diagnostic machines, prescriptions, and patient care guidelines, making EMP a crucial skill for ensuring patient safety and effective treatment (Bosher & Smalkoski, 2002; Kheladi, 2015).

As Algeria integrates into the global medical community, the demand for English-proficient healthcare professionals is increasing. Universities and medical institutions must recognize English as a critical tool for professional success, ensuring that students develop both theoretical knowledge and practical communication skills to engage effectively in international medical practice (Benrabah, 2007; Chachou, 2016).

### 1.2.2 The Role of English in Medical Research and Practice

English plays a vital role in both medical research and clinical practice, serving as the primary language for scientific publications, medical education, and patient care guidelines (Crystal, 2003; Paltridge & Starfield, 2013). The majority of high-impact medical journals.

In addition to research, English is crucial in medical education, particularly in international training programs and specialized courses (Hutchinson & Waters, 1987; Anthony, 2018). Many universities and professional organizations conduct medical training in English, ensuring that healthcare professionals can communicate effectively in diverse clinical settings (Swales, 1990; Boshier & Smalkoski, 2002). This is especially relevant for Algerian medical graduates who seek opportunities abroad or wish to collaborate on global health initiatives (Benrabah, 2007; Ziani, 2018).

English is also indispensable in patient care, as medical technologies, drug prescriptions, and diagnostic tools often use English as the default language (Candlin & Candlin, 2003; Kheladi, 2015). From MRI scanners to electronic medical records, healthcare professionals in Algeria and other non-English-speaking countries frequently encounter English-based systems, highlighting the need for comprehensive EMP training in medical education (Bouabdesselam, n.d.; Chachou, 2016).

To bridge the language gap, universities and healthcare institutions must implement structured EMP programs, equipping medical professionals with the necessary linguistic skills to engage in research, clinical practice, and global healthcare collaboration (Dudley-Evans & St John, 1998; Flowerdew & Peacock, 2001).

for medical research, international collaboration, and the operation of English-based medical equipment (Dudley-Evans & St John, 1998; Ferguson, 2013).

This gap in language training poses challenges when graduates enter the workforce, as they must engage with English-language medical technologies, research, and global professional networks (Candlin & Candlin, 2003; Hutchinson & Waters, 1987). Without proper EMP instruction, students struggle to keep up with advancements in medicine, limiting their ability to contribute effectively to both local and international healthcare (Swales, 1990; Flowerdew & Peacock, 2001).

To enhance the quality of medical education at Tlemcen University, a more comprehensive approach to EMP must be considered. This includes curriculum reform, increasing the coefficient of English courses, and adopting modern teaching strategies to improve medical students' linguistic and professional competencies (Hyland, 2006; Widdowson, 1978).

### **1.3 Overview of the Current Curriculum**

The medical curriculum at Tlemcen University is designed to provide students with a comprehensive foundation in medical sciences, integrating theoretical instruction with practical training (Benrabah, 2007; Ziani, 2018). The curriculum follows a structured progression, beginning with basic sciences and gradually advancing to clinical practice and specialized fields (Bouabdesselam, n.d.; Chachou, 2016).

One notable aspect of the program is the English module, which is introduced in the first year of medical studies. However, this course is limited in scope, focusing primarily on medical terminology without offering extensive training in communication skills or academic writing (Barkat, n.d.; Kheladi,

2015). Additionally, the coefficient (Coef. 01) assigned to English reflects the low priority given to language proficiency compared to other core medical subjects

Table 1.1. Overview of English Instruction Across the Algerian Medical Curriculum

Year	Core Subjects	English Instruction	Notes
1st Year	Basic Sciences (Anatomy, Physiology, Biology)	Medical Terminology (Coef. 01)	Limited focus on communication
2nd Year	Pathology, Microbiology, Pharmacology	No formal English instruction	English needed for medical literature
3rd Year	Clinical Training, Internal Medicine, Surgery	No formal English instruction	Increased exposure to English texts
4th-6th Year	Specialized Medical Fields, Internship	No structured EMP course	Reliance on self-learning

As shown in the table, English instruction is only present in the first year and does not continue into more advanced clinical and research-based courses. This creates a language gap, as students must engage with English-language research, medical technology, and international guidelines without adequate training.

To address this issue, English for Medical Purposes (EMP) should be expanded beyond the first year, integrating communication practice, research skills, and technical training throughout the medical curriculum.

### **1.3.1 Gaps in Medical English Proficiency**

Despite the increasing importance of English in medical education and practice, students at Tlemcen University face significant challenges in acquiring sufficient English proficiency (Benrabah, 2007; Ziani, 2018). The current curriculum does not provide continuous EMP instruction, leaving students unprepared for research, medical documentation, and the use of English-language medical equipment (Bouabdesselam, n.d.; Chachou, 2016).

One of the main gaps is the limited exposure to English beyond the first year. Since the English module focuses only on medical terminology and has a low coefficient (Coef. 01), students do not receive adequate training in scientific reading, professional communication, or clinical documentation (Barkat, n.d.; Kheladi, 2015). This becomes problematic as medical studies progress, requiring engagement with English-based research, case studies, and clinical protocols (Dudley-Evans & St John, 1998; Ferguson, 2013).

Another issue is the lack of faculty expertise in EMP. Many instructors in Algerian medical schools are not trained in teaching English for Medical Purposes, making it difficult to integrate EMP effectively into coursework (Candlin & Candlin, 2003; Hutchinson & Waters, 1987). This leads to a reliance on self-learning, where students must independently translate research papers, understand English medical abbreviations, and adapt to English-language medical software (Swales, 1990; Flowerdew & Peacock, 2001). As it is shown in the table

Table 1.2. Identified Gaps in EMP Instruction and Their Impact on Algerian Medical Students

Identified Gap	Impact on Medical Students
Limited English instruction beyond the first year	Students struggle with English-based research and clinical texts
Low coefficient (Coef. 01) of the English module	EMP is not taken seriously by students or faculty
Lack of faculty trained in EMP	No structured teaching approach for professional communication
Reliance on self-learning	Students face difficulties in using English-language medical tools and journals

Table 1.2 outlines several structural and pedagogical gaps in the implementation of English for Medical Purposes (EMP) within Algerian medical institutions. One of the most significant issues is the limited English instruction beyond the first year, leaving students underprepared for using English in clinical or academic settings. The low coefficient (Coef. 01) assigned to English modules indicates that EMP is not perceived as a priority, reducing student motivation and institutional support (Barkat, n.d.; Bouabdesselam, n.d.). Additionally, the absence of trained faculty in EMP leads to a lack of structured instruction, forcing students to rely on self-learning strategies, which are often insufficient for mastering medical language (Ferguson, 2013). These shortcomings hinder students' ability to engage with English-based tools, technologies, and global research, thereby limiting their professional development (Chachou, 2016; Paltridge & Starfield, 2013).

### 1.4 Integrating Medical English in Higher Education

The integration of English for Medical Purposes (EMP) into higher education is essential for preparing students for global medical research, clinical practice, and technological advancements (Crystal, 2003; Ferguson, 2013). Many non-English-speaking countries have successfully implemented EMP programs to enhance communication, research skills, and professional adaptability (Paltridge & Starfield, 2013; Basturkmen, 2010).

In Algeria, medical students face significant linguistic barriers when engaging with English-language medical literature, diagnostic tools, and patient care technologies (Benrabah, 2007; Ziani, 2018). To address this, universities must adopt structured EMP curricula that align with international standards while considering local educational needs (Dudley-Evans & St John, 1998; Anthony, 2018).

The table below outlines the key aspects of integrating EMP into higher education, comparing Algeria's current approach with successful global models:

Table 1.3. Comparison Between EMP Implementation in Algeria and Global Best Practices

Aspect	Current Situation in Algeria	Global Best Practices
Curriculum Design	Limited to first-year terminology courses (Coef. 01)	Integrated EMP courses throughout medical training
Teaching Methods	Mostly theoretical, lacks interactive components	Role-playing, case studies, and technology-assisted learning

Faculty Training	Few instructors trained in EMP	Certified EMP specialists teaching courses
Assessment Methods	Traditional written exams, minimal speaking evaluation	Practical assessments, real-world simulations

Table 1.3 compares the current state of English for Medical Purposes (EMP) instruction in Algeria with internationally recognized best practices. While Algeria typically limits EMP to a single low-coefficient terminology course in the first year, global models promote integration throughout all years of study (Anthony, 2018). Moreover, effective EMP instruction internationally often incorporates role-plays, case-based learning, and technological tools, contrasting with the more traditional and passive methods used in Algerian universities (Basturkmen, 2010). Faculty training also remains a concern locally, as few instructors are formally prepared to teach EMP, unlike in many countries where certified ESP educators lead such programs. Finally, assessments in Algeria remain heavily written, neglecting speaking and communicative competencies that are vital in real medical settings (Ferguson, 2013). These differences underline the pressing need for curricular reform to align Algerian EMP instruction with global standards.

#### 1.4.1 Approaches to Language Integration

Integrating English for Medical Purposes (EMP) into medical education requires a structured approach that combines curriculum design, effective teaching strategies, and assessment methods (Basturkmen, 2010; Paltridge & Starfield, 2013). Various models have been implemented worldwide to ensure that medical students develop both technical and communicative proficiency in English (Crystal, 2003; Ferguson, 2013).

The following table presents key approaches to integrating EMP, highlighting their purpose and application in medical education:

Table 1.4. Innovative Approaches to Teaching English for Medical Purposes (EMP)

Approach	Purpose	Application in Medical Education
Task-Based Learning (TBL)	Improves problem-solving and communication skills	Students engage in real-world case studies and patient interactions (Swales, 1990; Boshier & Smalkoski, 2002)
Content and Language Integrated Learning (CLIL)	Combines medical knowledge with language acquisition	Medical subjects are taught in English to enhance both content retention and fluency (Dudley-Evans & St John, 1998; Anthony, 2018)
Blended Learning	Enhances accessibility and flexibility	Combines face-to-face classes with online EMP modules for self-paced learning (Hyland, 2006; Flowerdew & Peacock, 2001)
Simulation-Based Training	Develops practical communication and decision-making skills	Students participate in role-playing exercises and virtual patient interactions (Candlin & Candlin, 2003; Benrabah, 2007)

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Source: Compiled by the researcher based on Swales (1990); Boshier & Smalkoski (2002); Dudley-Evans & St John (1998); Anthony (2018); Hyland (2006); Flowerdew & Peacock (2001); Candlin & Candlin (2003); Benrabah (2007) Task-Based Learning (TBL).

- Content and Language Integrated Learning (CLIL): Medical universities in Germany and Japan have successfully implemented CLIL by teaching core medical subjects in English, allowing students to develop technical fluency alongside their medical expertise (Dudley-Evans & St John, 1998; Anthony, 2018).
- Blended Learning: Combining traditional classroom teaching with digital platforms, this approach offers flexibility, allowing students to access EMP materials online and practice independently (Hyland, 2006; Flowerdew & Peacock, 2001).
- Simulation-Based Training: Medical students engage in role-playing exercises that simulate real-life doctor-patient interactions, emergency scenarios, and professional communication, improving their fluency and confidence in medical English (Candlin & Candlin, 2003; Benrabah, 2007).

To improve EMP integration in Algerian universities, institutions should adopt a combination of these approaches, ensuring that students will be able to develop both linguistic proficiency and clinical competency.

### **1.4.2 Global Models of Medical English Teaching**

The integration of English for Medical Purposes (EMP) varies worldwide, with different countries adopting structured approaches based on their education systems, linguistic needs, and professional demands (Paltridge & Starfield, 2013; Basturkmen, 2010). Some models focus on early integration of English into medical training, while others emphasize practical language use in clinical settings (Ferguson, 2013; Crystal, 2003).

The following table presents global EMP models, comparing their teaching methods, key features, and effectiveness in medical education.

Table 1.5. International Models of English for Medical Purposes (EMP)  
Instruction

Country	EMP Teaching Model	Key Features	Effectiveness
Germany	Content and Language Integrated Learning (CLIL)	Medical subjects are taught in English	High Students develop both medical and linguistic skills simultaneously (Dudley-Evans & St John, 1998)
Japan	Simulation-Based Training	Role-playing and patient interaction exercises	Effective Enhances communication skills in clinical settings (Candlin & Candlin, 2003)
Sweden	Blended Learning Approach	Online EMP courses combined with in-person practice	Moderate Provides flexibility but requires strong self-discipline (Hyland, 2006)
United States	Immersive EMP Programs	Full English immersion in medical studies and patient care	Very High Ensures fluency and confidence in medical communication (Ferguson, 2013)

Countries like Germany implement CLIL Content and Language Integrated Learning based programs, where medical subjects are taught directly in English, allowing students to develop technical and linguistic proficiency simultaneously (Dudley-Evans & St John, 1998). This approach is highly effective in non-English-speaking nations, ensuring that students graduate with strong academic and professional English skills.

Japan, on the other hand, uses simulation-based training, where medical students engage in role-playing exercises and patient interactions (Candlin & Candlin, 2003). This method enhances real-world communication and clinical confidence, making it an effective approach for improving spoken EMP skills.

In Sweden, EMP is incorporated through a blended learning approach, combining digital EMP courses with in-person practice (Hyland, 2006). While The United States follows an immersive EMP model, where students are fully exposed to English throughout their medical training (Ferguson, 2013). This approach guarantees fluency and prepares students for English-speaking healthcare environments, making it the most effective method for ensuring strong professional communication.

For Algerian universities, adopting a combination of these approaches such as CLIL for theoretical learning, simulations for clinical practice, and blended learning for flexibility would significantly improve EMP proficiency among medical students (Benrabah, 2007; Bouabdesselam, n.d.).

### **1.5 Benefits of Medical English Proficiency for Medical Students**

Proficiency in English for Medical Purposes (EMP) offers numerous advantages for medical students, enabling them to access global research, enhance professional communication, and improve patient care (Crystal, 2003; Ferguson, 2013). In an increasingly interconnected world, medical professionals must be

prepared to engage with English-language journals, international conferences, and multinational healthcare teams (Paltridge & Starfield, 2013; Basturkmen, 2010).

One of the key benefits of EMP is its role in enhancing academic and clinical performance. Students proficient in medical English can read and interpret scientific studies, improve their ability to stay updated with the latest medical advancements (Dudley-Evans & St John, 1998; Hutchinson & Waters, 1987). Furthermore, English proficiency enhances career opportunities, as many international medical programs, residencies, and research institutions require strong English communication skills (Swales, 1990; Hyland, 2006).

In clinical settings, English proficiency is crucial for effective doctor-patient communication and collaboration with international colleagues (Candlin & Candlin, 2003; Benrabah, 2007). Many modern medical devices, diagnostic tools, and electronic health records operate in English, making it essential for medical students to develop technical English skills early in their education (Ziani, 2018; Bouabdesselam, n.d.).

The table below summarizes the key benefits of EMP for medical students, categorized into academic, professional, and clinical advantages:

Table 1.6. Academic, Professional, and Clinical Benefits of Medical English Proficiency

Category	Benefit	Impact on Medical Students
Academic	Access to international research	Enables students to read and contribute to global medical literature (Swales, 1990; Flowerdew & Peacock, 2001)

Academic	Better performance in medical studies	Improves understanding of scientific terminology and case studies (Hyland, 2006; Basturkmen, 2010)
Professional	Increased career opportunities	Opens pathways for residencies and medical fellowships abroad (Dudley-Evans & St John, 1998; Ferguson, 2013)
Professional	Collaboration with global professionals	Enhances teamwork in multinational healthcare settings (Candlin & Candlin, 2003; Benrabah, 2007)
Clinical	Effective doctor-patient communication	Reduces miscommunication and improves patient care (Bosher & Smalkoski, 2002; Kheladi, 2015)
Clinical	Ability to use medical equipment and software	Essential for understanding instructions and interpreting results (Ziani, 2018; Bouabdesselam, n.d.)

The academic benefits of EMP include greater access to research and stronger academic performance, as students can read, analyze, and contribute to high-impact medical journals (Swales, 1990; Flowerdew & Peacock, 2001). It also ensures professional advantages, helping graduates secure international job placements, medical fellowships, and research collaborations (Dudley-Evans & St John, 1998; Ferguson, 2013).

From a clinical perspective, EMP plays a crucial role in doctor-patient communication, reducing the risk of medical errors and improving healthcare delivery (Bosher & Smalkoski, 2002; Kheladi, 2015). Additionally, English

proficiency allows students to effectively operate and interpret English-based medical equipment, which is increasingly common in hospitals worldwide (Ziani, 2018; Bouabdesselam, n.d.).

To maximize these benefits, medical institutions in Algeria should expand EMP training beyond basic terminology, incorporating communication skills, practical application, and hands-on training with medical technology (Benrabah, 2007; Chachou, 2016).

### **1.5.1 Enhanced Communication Skills**

Effective communication is a fundamental skill in medical practice, and English proficiency significantly enhances a medical student's ability to interact with patients, colleagues, and international healthcare professionals (Ferguson, 2013; Candlin & Candlin, 2003). The ability to explain diagnoses, treatment plans, and medical procedures in English ensures clarity and reduces the risk of miscommunication, which is critical in a medical setting (Bosher & Smalkoski, 2002; Kheladi, 2015).

In multilingual environments, medical professionals must navigate linguistic barriers, particularly when dealing with patients who speak different languages (Benrabah, 2007; Bouabdesselam, n.d.). Many hospitals worldwide use English as a common language, making it essential for healthcare providers to develop strong verbal and written communication skills (Swales, 1990; Paltridge & Starfield, 2013).

The following table highlights the key areas where English proficiency improves communication in medical practice:

Table 1.7. Communication Skills in Medical English and Their Impact on Professional Practice

Communication Skill	Application in Medical Practice	Impact on Patient Care & Professionalism
Doctor-Patient Interaction	Explaining diagnoses, treatments, and prescriptions	Reduces patient anxiety and ensures understanding (Ferguson, 2013; Boshier & Smalkoski, 2002)
Medical Team Collaboration	Communicating with colleagues, nurses, and specialists	Improves teamwork and efficiency in hospitals (Candlin & Candlin, 2003; Benrabah, 2007)
Scientific Writing & Research	Writing medical reports, case studies, and research papers	Enables contributions to international medical literature (Swales, 1990; Flowerdew & Peacock, 2001)
Conference & Seminar Participation	Presenting research findings in international medical events	Enhances professional development and networking (Hyland, 2006; Ferguson, 2013)

Doctor-patient communication is one of the most critical aspects of medical practice. When physicians can clearly explain symptoms, treatments, and procedures, patients feel more comfortable and comply better with treatment plans (Ferguson, 2013; Boshier & Smalkoski, 2002). In contrast, language barriers can lead to misdiagnoses, patient confusion, and poor medical outcomes (Kheladi, 2015; Benrabah, 2007).

Collaboration among healthcare teams also depends on effective communication. Nurses, doctors, and specialists must coordinate patient care, share medical records, and discuss treatment strategies, all of which often happen in English (Candlin & Candlin, 2003; Bouabdesselam, n.d.). In international settings, English fluency ensures smooth interactions between professionals from different linguistic backgrounds, reducing the risk of errors in patient care (Swales, 1990; Flowerdew & Peacock, 2001).

Additionally, strong writing skills are necessary for medical documentation, scientific publishing, and research presentations (Hyland, 2006; Ferguson, 2013). Many medical students in Algeria face difficulties in writing research papers in English, limiting their ability to contribute to global scientific discussions (Dudley-Evans & St John, 1998; Basturkmen, 2010).

To enhance communication skills, EMP courses should focus on practical language training, including role-playing doctor-patient conversations, team-based medical discussions, and academic writing exercises (Benrabah, 2007; Chachou, 2016).

### **1.5.2 Access to International Research and Collaboration**

English proficiency plays a crucial role in medical research and international collaboration, enabling medical students and professionals to engage with global scientific advancements, participate in academic discussions, and contribute to medical innovation (Crystal, 2003; Ferguson, 2013). Since most high-impact medical journals, clinical studies, and research conferences use English as their primary language, limited English proficiency can significantly restrict access to cutting-edge knowledge (Swales, 1990; Basturkmen, 2010).

Medical students who master English for Medical Purposes (EMP) can effectively read, analyze, and contribute to scientific publications, increasing their academic and professional opportunities (Paltridge & Starfield, 2013; Anthony,

2018). Additionally, collaboration with international researchers, universities, and healthcare organizations is heavily dependent on English, as it serves as the common language of communication in global healthcare networks (Dudley-Evans & St John, 1998; Flowerdew & Peacock, 2001).

The following table outlines the key advantages of English proficiency in medical research and collaboration:

Table 1.8. Role of English Proficiency in Academic and Professional Medical Fields

Aspect	How English Proficiency Helps	Impact on Medical Students & Professionals
Access to Global Medical Journals	Ability to read and publish in top journals like <i>The Lancet</i> and <i>New England Journal of Medicine</i>	Keeps students updated with the latest medical discoveries (Swales, 1990; Hyland, 2006)
Participation in International Conferences	Presenting research findings, networking with global experts	Enhances academic and professional visibility (Ferguson, 2013; Candlin & Candlin, 2003)
Collaboration with International Medical Teams	Working on joint research projects, participating in clinical trials	Expands career opportunities and research experience (Dudley-Evans & St John, 1998; Benrabah, 2007)

Use of Online Medical Databases	Searching PubMed, Scopus, and other English-based databases	Provides access to the latest clinical studies and treatments (Bouabdesselam, n.d.; Kheladi, 2015)
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English proficiency allows students to stay informed about medical advancements by accessing journals, research papers, and case studies (Swales, 1990; Hyland, 2006). Journals such as *The Lancet* and *The New England Journal of Medicine* publish groundbreaking medical research, which non-English-speaking students may struggle to understand if they lack strong reading and comprehension skills (Ferguson, 2013; Candlin & Candlin, 2003).

International medical conferences and workshops provide students with opportunities to present their research, gain feedback from experts, and establish professional networks (Dudley-Evans & St John, 1998; Benrabah, 2007). Without English proficiency, students may miss out on scholarships, research grants, and exchange programs, limiting their professional growth (Bouabdesselam, n.d.; Kheladi, 2015).

Furthermore, medical students who can collaborate with international teams are more likely to participate in clinical trials, contribute to global health initiatives, and work in multinational hospitals (Dudley-Evans & St John, 1998; Flowerdew & Peacock, 2001). Access to online medical databases such as PubMed, Scopus, and Cochrane Library ensures that students stay updated with the latest research, treatment methods, and medical guidelines (Basturkmen, 2010; Paltridge & Starfield, 2013).

To maximize these opportunities, Algerian medical universities should enhance EMP programs, focusing on academic reading, research writing, and scientific communication (Benrabah, 2007; Chachou, 2016).

### 1.6 Institutional Support and Faculty Readiness

The successful integration of English for Medical Purposes (EMP) in Algerian universities depends heavily on institutional support and faculty preparedness. Universities must allocate resources, develop structured programs, and train instructors to ensure effective EMP implementation (Benrabah, 2007; Bouabdesselam, n.d.). However, limited funding, a lack of trained faculty, and the absence of standardized EMP curricula pose significant challenges (Candlin & Candlin, 2003; Paltridge & Starfield, 2013).

The table below outlines key factors related to institutional support and faculty readiness, along with potential solutions:

Table 1.10. Challenges and Proposed Solutions for Implementing EMP in Algerian Medical Education

Factor	Current Challenges in Algeria	Proposed Solutions
EMP Course Development	No standardized EMP curriculum across universities	Design a structured EMP program with clear learning outcomes (Kheladi, 2015; Chachou, 2016)
Faculty Training	Most instructors lack medical English expertise	Offer EMP certification programs for teachers (Dudley-Evans & St John, 1998; Basturkmen, 2010)

Funding and Resources	Limited financial support for EMP materials	Increase investment in EMP textbooks, software, and online platforms (Ferguson, 2013; Bouabdesselam, n.d.)
Integration into the Curriculum	English courses are undervalued (Coef. 01)	Raise the coefficient and integrate EMP into clinical training (Benrabah, 2007; Swales, 1990)

One of the main institutional challenges is the absence of a unified EMP curriculum across Algerian universities. Currently, EMP courses vary significantly in content, duration, and teaching approach, leading to inconsistent learning outcomes (Kheladi, 2015; Chachou, 2016). Developing a standardized EMP framework would help ensure that students across different institutions receive equal opportunities to develop medical English proficiency (Dudley-Evans & St John, 1998; Basturkmen, 2010).

Another key issue is faculty readiness. Many instructors teaching EMP courses lack specialized training in medical terminology, scientific communication, and clinical interactions (Candlin & Candlin, 2003; Paltridge & Starfield, 2013). Establishing EMP certification programs and professional development workshops for teachers would enhance their ability to deliver effective medical English instruction (Hyland, 2006; Flowerdew & Peacock, 2001).

Financial limitations also hinder the adoption of modern EMP resources. Many universities rely on outdated textbooks and traditional teaching methods, preventing students from accessing interactive learning tools, online medical journals, and simulation-based EMP training (Ferguson, 2013; Bouabdesselam, n.d.). Increased government funding and institutional investment would help

modernize EMP education, making it more accessible and engaging (Benrabah, 2007; Swales, 1990).

Finally, EMP integration into medical curricula remains a low priority, as reflected in its low coefficient (Coef. 01) (Kheladi, 2015; Chachou, 2016). To improve EMP education, universities must increase the weight of English courses and embed medical English training into practical, clinical learning (Dudley-Evans & St John, 1998; Flowerdew & Peacock, 2001).

By addressing these institutional and faculty-related barriers, Algerian universities can enhance EMP instruction, ensuring that medical students develop the necessary English skills for professional success in local and international healthcare environments (Basturkmen, 2010; Paltridge & Starfield, 2013).

### **1.6.1 Student Perspectives and Needs**

Medical students in Algeria recognize the importance of English for their future careers, but many face significant challenges in acquiring the necessary proficiency (Benrabah, 2007; Bouabdesselam, n.d.). While they understand that English is essential for reading research papers, using medical technology, and participating in international programs, they often feel unprepared due to the limited emphasis on EMP in their curriculum (Kheladi, 2015; Chachou, 2016).

A major concern among students is the lack of continuity in EMP instruction. English is often only taught in the first year, leaving students with little opportunity to develop their language skills as they progress through medical school (Barkat, n.d.; Swales, 1990). Additionally, students report that traditional teaching methods, which focus primarily on memorization of medical terminology, do not help them develop communication or technical reading skills (Ferguson, 2013; Hyland, 2006).

The following table highlights common challenges faced by medical students regarding EMP and their proposed solutions:

Table 1.11. Student Challenges and Suggested Improvements in Medical English Learning

<b>Student Challenge</b>	<b>Description</b>	<b>Suggested Improvement</b>
<b>Limited EMP instruction</b>	English is only taught in the first year with a low coefficient (Coef. 01)	Integrate EMP throughout the medical curriculum (Benrabah, 2007; Chachou, 2016)
<b>Focus on terminology, not practical use</b>	Courses emphasize vocabulary memorization rather than real-world application	Use interactive methods like case studies and simulations (Swales, 1990; Ferguson, 2013)
<b>Lack of technical English training</b>	Students struggle with English-language medical equipment and research	Introduce specialized EMP courses for clinical and research purposes (Bouabdesselam, n.d.; Ziani, 2018)
<b>No formal speaking or writing practice</b>	Students are not trained in presenting research or writing case reports in English	Implement writing workshops and speaking exercises (Hyland, 2006; Paltridge & Starfield, 2013)

One of the biggest concerns is that EMP instruction does not extend into clinical years, where students start engaging with medical journals, patient records, and diagnostic tools (Dudley-Evans & St John, 1998; Basturkmen, 2010). Many medical students express frustration that when they enter internships or begin clinical rotations, they suddenly realize how much English is required in real-world practice but lack the training to handle it effectively (Ferguson, 2013; Flowerdew & Peacock, 2001).

Additionally, students highlight the need for modern teaching methods that emphasize practical usage rather than rote learning. Many EMP courses rely on traditional grammar-focused lessons, which fail to prepare students for real-life communication in medical settings (Swales, 1990; Hyland, 2006). Introducing role-playing exercises, patient simulations, and medical report writing workshops would significantly improve their confidence and fluency (Bouabdesselam, n.d.; Ziani, 2018).

### **1.7 The Impact of English-Only Medical Equipment on Algerian Healthcare Graduates**

As medical graduates transition from theoretical learning to practical application, they frequently encounter advanced medical equipment that operates exclusively in English. This presents a significant challenge, as many Algerian students have limited exposure to technical English terminology in their academic curriculum (Barkat, n.d.). Devices such as MRI scanners, ventilators, and diagnostic tools often feature English-only interfaces, warning labels, and user manuals, making it difficult for new professionals to operate them efficiently. Addressing this gap requires incorporating EMP programs that focus not only on medical communication but also on technical and equipment-related English to better prepare students for real-world medical settings.

The following table provides an example of commonly encountered technical terms in medical equipment and their equivalents in standard medical education:

Table 1.12. Examples of New Medical Equipment Terms vs. Commonly Studied Equivalents

New Equipment Term	Commonly Studied Equivalent	Context
"Ventilator Mode: SIMV"	"Respiratory Assistance"	Used in ICU settings
"MRI Coil Positioning"	"Imaging Techniques"	Required for scan accuracy
"Defibrillator Joules Setting"	"Cardiac Resuscitation"	Emergency response
"Infusion Pump Flow Rate"	"IV Administration"	Drug dosage calculation

These discrepancies highlight the urgent need for targeted EMP training that includes real-world applications and hands-on experience with medical equipment terminology.

## 1.8 Conclusion

The integration of English in medical education is no longer an option but a necessity for Algerian medical students and professionals. As global medical communication, research, and equipment increasingly rely on English, it is

imperative to equip future healthcare providers with the necessary linguistic and technical skills. This study has highlighted the importance of English in medical education, the gaps in current curricula, and the challenges faced by graduates in professional settings.

The findings underscore the need for structured EMP programs that encompass not only medical terminology but also practical applications, such as the use of English-based medical equipment. Addressing these issues through curriculum reform, faculty training, and institutional support will significantly enhance the preparedness of Algerian medical graduates, enabling them to contribute effectively to both local and international healthcare settings.

By implementing targeted educational reforms, Algerian universities can bridge the language gap and empower future generations of medical professionals to navigate the complexities of the global medical landscape with confidence.

**Chapter Three**

**Research Procedures and Findings**

## 2.1 Introduction

This chapter presents the research methodology and data analysis used in the study, with a particular focus on the Faculty of Medicine at Tlemcen University. It involves an investigation of participating students from various academic levels and medical specialities, along with educators from different fields. The data collection tools, namely the questionnaire and the interview, were employed to gather a wide range of perspectives. The interpretation of the results is based on the analysis of these two instruments. Overall, this chapter aims to introduce the study context, describe the participants, outline the research tools, and explain the approach taken to interpret the collected data.

## 2.2 ELT SITUATION IN ALGERIA:

English is becoming more important in Algeria, especially in fields like medicine where most global research is published in English. Still, Arabic and French dominate the country's education system Arabic in general education and French in higher education, particularly in scientific domains (Benrabah, 2007; Bouabdesselam, n.d.). This makes it hard for medical students to shift to English for Medical Purposes (EMP), as they often rely on French instead (Hassaine, 2020).

To improve English Language Teaching (ELT), Algeria recently added English to primary schools before, it was only introduced in middle school. Studies show that early exposure supports better language development (Lightbown & Spada, 2013). Yet, French remains strong, especially in science-related studies (Benrabah, 2013), and students often struggle to adapt after years of using French (Guemide & Benmostefa, 2021). Even though English is part of the curriculum in middle and secondary school, only scientific streams those leading to fields like medicine continue with it, while others might stop earlier (MNE, 2022).

The following table summarizes the current English class structure in Algerian schools:

Table 2.1 Title: EFL teaching load and coefficient at different levels of instruction

Education Level	Class Duration	Weekly Hours	Coefficient	Notes
Primary School	45 minutes	2 hours		Introduced in 3rd and 4th & 5th grade since 2022
Middle School (1st & 2nd year and 3 <sup>rd</sup> year )	1 hour	4 hours	1	English becomes a core subject
Middle School 4th year) Secondary school	1 hour	4 hours	2	Increased focus on grammar & writing
High School (Scientific Streams) Secondary school	1 hour	2 hours	2	Lower coefficient in sciences
High School (Literary)	1 hour	4 hours	5	Higher coefficient, focus on literature
Medical University (1st Year)	1.5 – 2 hours 1h30	1.5 – 2 hours 1h30	1 or 2	Focus on Medical English, varies by university

The table highlights the gradual implementation of English instruction in Algeria, beginning from primary school and continuing through to university. Notably, it shows how English gains more importance at each level, especially in literary streams at the secondary stage. However, in scientific fields such as medicine, where this study is focused English remains a secondary subject despite its increasing necessity in professional and academic contexts.

### **2.3 Sample population**

The sample for this study consists of (concerns) medical students and teachers from Tlemcen University, selected to provide a comprehensive understanding of English for Medical Purposes (EMP) instruction. Stratified sampling was used, which is a method that divides a population into subgroups based on shared traits, ensuring each group is proportionally represented in the final sample. This approach enhances result accuracy and minimizes bias, making it useful for analyzing specific sub groups. (chercher) then give a definition abt stratified by a researcher

As far as students are concerned A total of 100 medical students participated in the study, This allows for an analysis of how EMP instruction affects students at different stages of their medical education and how English proficiency evolves over time.

#### **Regarding Teachers' Sample**

The teachers' sample includes 12 teachers, specializing in English instruction, medical terminology, and the teaching of medical subjects in English. The selection of teachers from different generations ensures a balanced perspective, incorporating insights from experienced instructors and newer teachers adapting to recent curriculum changes.

This diverse sample ensures that the research findings reflect both student

learning experiences and teachers' instructional challenges, leading to a practical and data-driven evaluation of EMP instruction at Tlemcen University.

A stratified sampling method was used to select the participants. Stratified sampling is a sampling technique where the population is divided into distinct subgroups, or strata, based on shared characteristics (such as teaching experience or specialization). A sample is then randomly selected from each subgroup to ensure that the final sample accurately represents the diversity of the whole population. This method improves the precision of the results and ensures that both older and newer teaching generations are equally represented.

#### **2.4 Research Design and Procedures**

This study adopts a mixed-method research design, combining quantitative and qualitative approaches to examine the effectiveness of English for Medical Purposes (EMP) instruction at Tlemcen University. A descriptive approach is used to analyze students' experiences with EMP courses and teachers' perspectives on instructional challenges and curriculum development. The quantitative component consists of a questionnaire distributed to 100 medical students, aimed at evaluating their English proficiency, confidence in using EMP, and challenges in understanding medical texts. The qualitative component involves semi-structured interviews with 10 teachers, focusing on their experiences in teaching EMP, the resources available, and their recommendations for improvement.

#### **2.5 Instrumentation**

To collect data for this study, two research instruments were used: a questionnaire for students and semi-structured interviews for teachers. These tools were designed to assess the importance of Medical English (EMP), challenges in learning and teaching EMP, and potential improvements in EMP instruction at Tlemcen University.

### **2.5.1 Piloting a questionnaire**

Piloting a questionnaire refers to the process of testing the survey on a small sample of participants before full distribution. This step helps identify any unclear questions, structural issues, or potential biases, ensuring the reliability and validity of the final data collection tool

This questionnaire went through this phase before distribution, and interview questions were structured to allow flexibility while maintaining focus on key research areas. The study follows ethical research practices, ensuring participant confidentiality and voluntary participation.

Data collection for this research was conducted through two main instruments: a questionnaire and semi-structured interviews. The questionnaire was distributed both online and in person to a sample of medical students from various academic years at Tlemcen University. This mixed distribution approach allowed for a more diverse and representative sample. At the same time, interviews were conducted with twelve teachers specializing in English instruction, medical terminology, and medical subject teaching in English. The selection of teachers from different generations provided a balanced view on the challenges and perspectives surrounding EMP instruction. All participants were informed about the purpose of the study, and their participation was voluntary and confidential, in line with ethical research standards. The questionnaire responses were analyzed using descriptive statistics, while the interview data underwent thematic analysis to identify key challenges and propose solutions for improving EMP instruction at Tlemcen University.

### **2.5.2 Questionnaire (Study and Validation Phase)**

The questionnaire was designed as a quantitative data collection tool to assess medical students' experiences, proficiency, and challenges in using

English for Medical Purposes (EMP) at Tlemcen University. It aims to gather insights into students' exposure to English, their confidence in using it for academic and clinical purposes, and their perspectives on EMP instruction.

The questionnaire consists of both closed-ended and open-ended questions, allowing for statistical analysis and qualitative insights. It is divided into three main sections:

- General Information which includes students' academic level, previous exposure to English, and frequency of English use in their studies.
- EMP Learning Experience: assesses students' confidence in reading medical texts, understanding lectures, and communicating in English.
- Challenges and Suggestions. This section identifies the difficulties students face in learning English for Medical Purposes (EMP) and gathers their recommendations for improving EMP instruction. The insights presented are based on the students' perspectives, reflecting their personal experiences and expectations.

The questionnaire was administered both online and in person to ensure broad participation. Responses were analyzed using descriptive statistics, providing a clear overview of students' English proficiency, learning difficulties, and attitudes toward EMP course. These findings will help identify key areas where EMP instruction can be improved to better support medical students at Tlemcen University.

#### **2.5.2.1 Interview**

The interview was designed as a qualitative data collection tool to gather the required data about teachers' perspectives on English for Medical Purposes (EMP) instruction at Tlemcen University. It aims to explore the effectiveness of

current EMP courses, the challenges faced in teaching medical English, and possible improvements to the curriculum.

The interview was semi-structured, allowing for flexibility while ensuring that key research areas were covered. The questions focused on mainly teachers' experiences with EMP instruction, students' common difficulties, the adequacy of teaching materials, and institutional support for EMP programs. Additionally, teachers from both older and newer generations participated, providing insights into how EMP instruction has evolved over time and the differences in student engagement across generations.

A total of 12 teachers from different medical and linguistic backgrounds were interviewed. Their specializations included general English, medical terminology, and subject-specific medical courses. Interviews were conducted in person and online, ensuring detailed responses in a comfortable setting. The collected data was analyzed using thematic analysis, identifying recurring themes and key areas for improvement in EMP instruction at Tlemcen University.

## **2.6 Data Analysis**

This section outlines the methods used to analyze the data collected from the students' questionnaire and teachers' interviews. Since the study employs a mixed-method approach, both quantitative and qualitative analysis techniques were used to ensure a comprehensive interpretation of the findings.

### **2.6.1 Students' Questionnaire**

The questionnaire was designed for medical students at Tlemcen University to assess their experience with English for Medical Purposes (EMP) instruction. It included 10 questions categorized under four rubrics, each addressing a specific aspect of EMP learning. The questionnaire aimed to obtain data on students' proficiency levels, challenges in learning medical English, and

their perspectives on EMP courses. Furthermore, 100 questionnaires were distributed, and ones 88 were received and considered valid for analysis. while the remaining ones were not handed to the researcher.

### ***Rubric One: General Information***

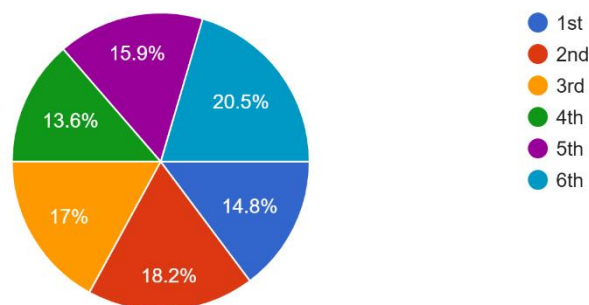
The first section of questions (Q1–Q3) aimed to gather basic demographic details about the participants, including their academic year, prior exposure to English, and frequency of using English in their studies.

#### *Question 1: What year of study are you in?*

This question aimed to classify students based on their academic year and ensure diverse representation across different stages of medical education.

**Figure 2.1:** *students' year of study*

88 responses



The total number of respondents was 88 students. A stratified random sampling method was used to guarantee that participants from various academic levels were included. As illustrated in Figure (2.1), the distribution of students across the six academic years varied. Sixth-year students represented the largest portion, making up 20.5% of the respondents, followed by second-year students, who comprised 18.2% of the sample. Third-year students accounted for 17%,

while fifth-year students represented 15.9%. First-year students made up 14.8%, and the smallest group was fourth-year students, at 13.6%. This distribution reflects a balanced participation from different academic levels, providing a comprehensive perspective on students' experiences.

*Question 2: Have you previously studied English in a formal educational setting?*

This question aimed to determine whether participants had prior exposure to English in a formal educational setting.

**Figure (2.2):** *Students' Prior Exposure to English in a Formal Educational Setting*

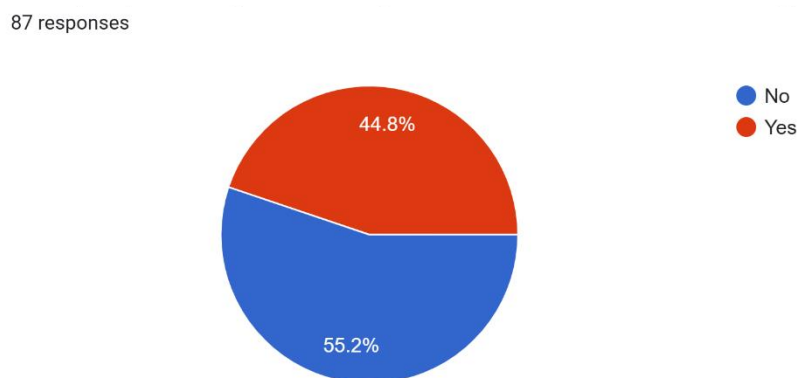


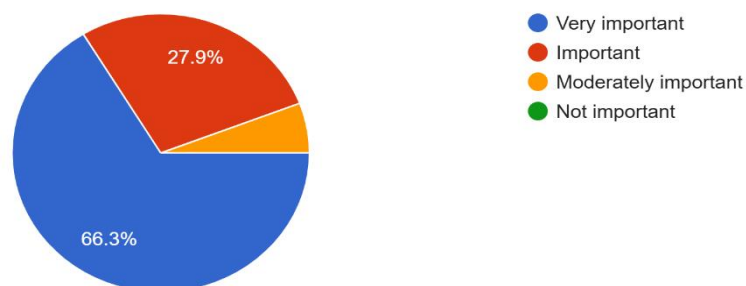
Figure (2.2) illustrates the distribution of responses. Out of 88 respondents, 55.2% stated that they had not studied English in a formal educational context, while 44.8% reported having done so. These results indicate that more than half of the surveyed students did not receive structured English instruction before entering their medical studies, whereas a significant portion had some level of formal English education.

*Question 3: How important do you think English is for your medical studies and future career?*

This question aimed to assess students' perceptions of the significance of English in their academic and professional journeys. Understanding how students value English can provide insights into their motivation for language learning and its perceived necessity in the medical field. Figure (2.3) illustrates the distribution of responses.

**Figure (2.3):** *Students' perceptions of the importance of English in their medical studies and future careers.*

86 responses



The majority of participants (66.3%) considered English to be "Very important" for their studies and future careers, highlighting the widespread recognition of its role in medical education and practice. Additionally, 27.9% of respondents rated English as "Important," reinforcing its perceived relevance. A smaller percentage (4.7%) indicated that English is "Moderately important," while no students selected "Not important." These results suggest that students acknowledge the crucial role of English in their academic and professional success.

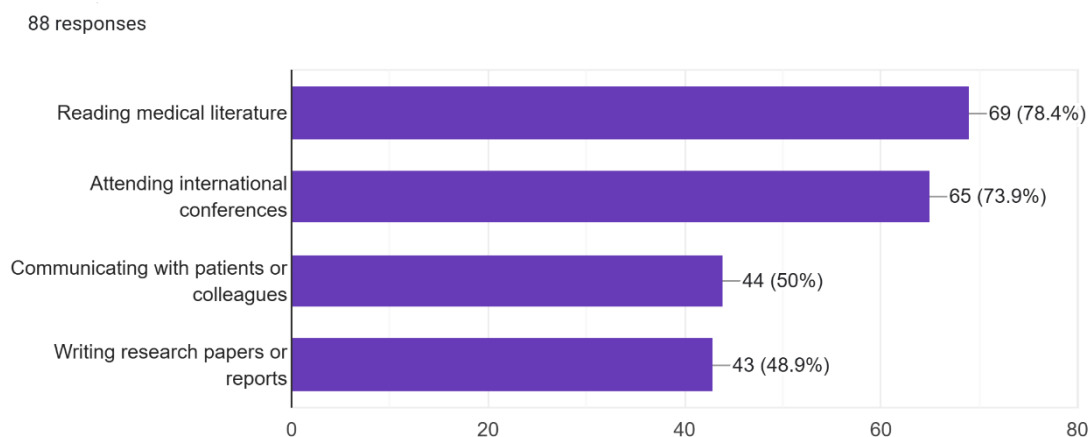
***Rubric two: Students' Perceptions on the Importance of Medical English***

The second section of the questionnaire (Q4–Q5) focused on understanding students' perspectives regarding the relevance of English in their medical education and future careers. Participants were asked to evaluate how important they believe English is for their academic career and to identify which aspects of Medical English they consider most applicable such as reading medical literature, writing research papers, attending international conferences, or communicating with patients and colleagues.

***Q4. Which aspects of Medical English do you find most relevant to your studies?***

This question aimed to identify the specific areas of Medical English that students consider most applicable to their academic needs, such as reading medical literature, communicating in clinical settings, or participating in global academic exchange. Figure (2.4) illustrates the distribution of responses.

***Figure (2.4): Students' Perceptions of the Most Relevant Aspects of Medical English***



The majority of students consider reading medical literature (78.4%) and attending international conferences (73.9%) as the most relevant aspects of

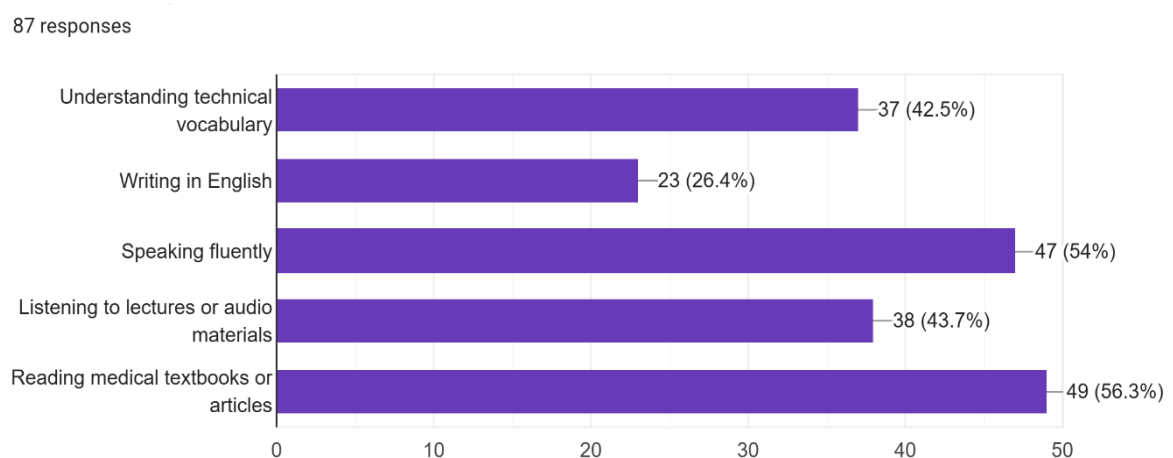
Medical English. Communicating with patients or colleagues (50%) and writing research papers or reports (48.9%) were also selected, although to a slightly lesser extent. These results indicate that students prioritize academic and research-related uses of English over direct communication skills.

It should be noted that the total percentages exceed 100% because students were allowed to select multiple answers. This highlights the fact that students recognize the importance of English in several different academic and professional activities

*Q5. How would you rate your current proficiency in English?*

This question aimed to evaluate students' self-perceived level of English proficiency. Understanding how confident learners feel about their language skills provides insight into potential gaps between their current abilities and the demands of Medical English. It also helps contextualize their attitudes toward integrating English into their academic experience. Figure (2.5) below illustrates the distribution of responses.

**Figure (2.5): Challenges Faced by Students When Using English in Medical Studies**



The most commonly reported challenge was reading medical textbooks or articles, selected by 56.3% of participants, indicating that comprehension of complex written material is a significant barrier. Speaking fluently was the second most cited issue (54%), reflecting difficulties in oral communication. Additionally, 43.7% of students reported struggling with listening to lectures or audio materials, and 42.5% had usually have trouble understanding technical vocabulary, suggesting broader receptive language difficulties. Writing in English was the least selected challenge (26.4%), possibly indicating a lesser focus on written tasks or relatively greater confidence in this area. These findings reveal that while students face a range of linguistic obstacles, reading and speaking are the most prominent. ones

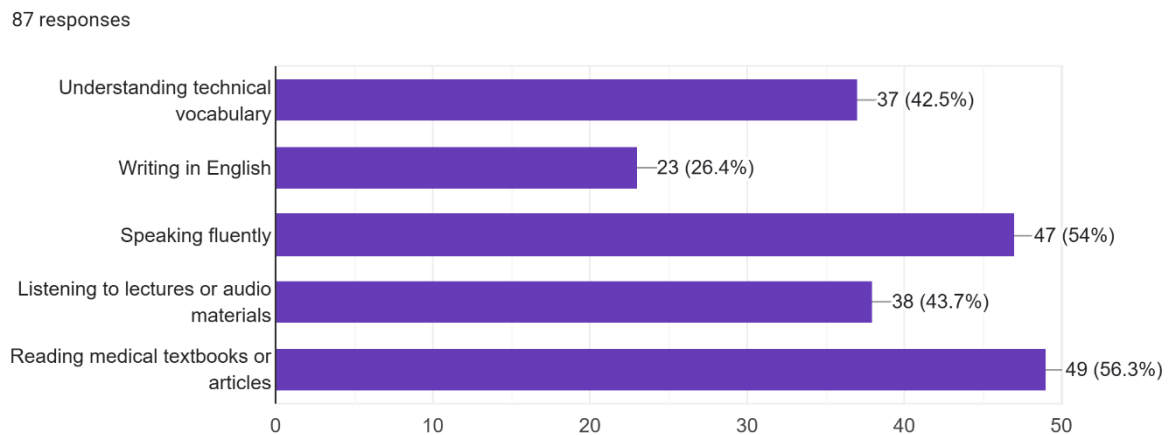
### ***Rubric Three: Students' English Proficiency and Perceived Challenges***

The third section of the questionnaire (Q6–Q8) aimed to evaluate students' self-assessed proficiency in English and the specific challenges they encounter when using the language in their medical studies. Participants were also asked about their support for integrating Medical English into the curriculum and to express their preferences regarding the most effective formats for learning it such as weekly classes, workshops, or online modules. These questions help identify both the barriers to English usage and the instructional methods students find most suitable.

#### *Q6. What challenges do you face when using English in your medical studies?*

This question aimed to identify the specific difficulties students encounter when using English in their medical education, such as issues with vocabulary, comprehension, or communication. Understanding these challenges helps highlight areas where targeted support or instructional improvements are needed.

**Figure (2.6):** Challenges Faced by Students When Using English in Medical Studies



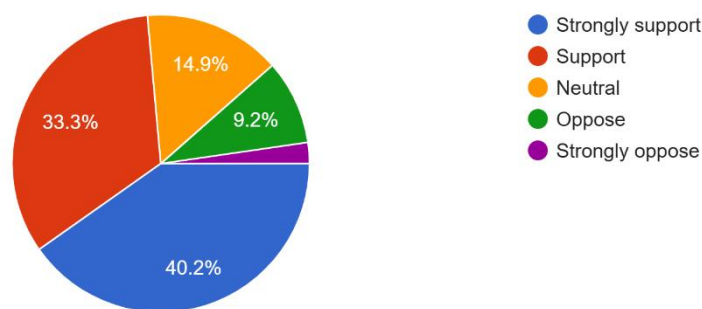
The most commonly reported challenge among students is "Reading medical textbooks or articles," selected by 56.3% of respondents. This is closely followed by "Speaking fluently" at 54%, indicating that both reading comprehension and oral communication in English present significant hurdles. "Understanding technical vocabulary" (42.5%) and "Listening to lectures or audio materials" (43.7%) were also notable difficulties, suggesting gaps in both passive and active language skills. Interestingly, "Writing in English" was the least selected challenge at 26.4%, implying that students may feel relatively more confident in written English compared to other skills. These results highlight the multifaceted nature of linguistic challenges faced in medical education and underscore the need for comprehensive language support.

*Q7. Would you support the inclusion of Medical English courses in your curriculum?*

This question aimed to determine students' attitudes toward the potential integration of Medical English courses into their academic curriculum. It sought to gauge their level of support and interest in receiving formal instruction tailored to the linguistic demands of medical education and practice.

**Figure (2.7):** *Students' Support for the Inclusion of Medical English Courses in the Curriculum*

87 responses



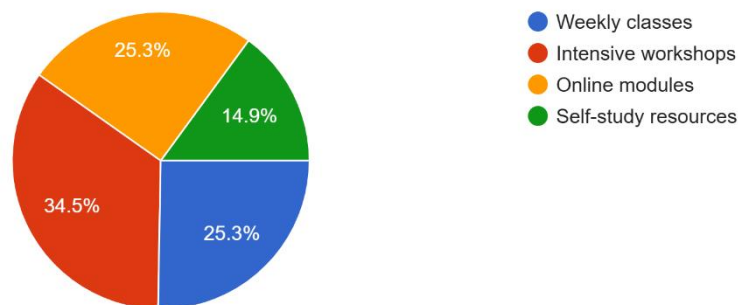
The majority of participants expressed positive attitudes towards incorporating Medical English into their curriculum. Specifically, 40.2% of respondents strongly support the inclusion of such courses, while 33.3% support it, indicating widespread approval among students. A smaller portion (14.9%) remained neutral, and only a minority opposed (9.2%) or strongly opposed (2.3%) the idea. These results suggest that most students recognize the value of structured Medical English education and are receptive to its formal implementation in their studies.

*Q8. Which format( learning) do you think would be most effective for teaching Medical English?*

This question aimed to explore students' preferences regarding the instructional format for Medical English, helping to identify the most suitable and engaging teaching method that aligns with their learning styles and academic schedules.

**Figure (2.8):** *Students' Preferred Learning Methods for Medical English*

87 responses



The majority of respondents (34.5%) indicated a preference for intensive workshops as the most effective format for teaching Medical English. This suggests that students may favor concentrated, practical learning experiences over long-term commitments. Weekly classes and online modules were each selected by 25.3% of participants, highlighting a balanced interest in both traditional classroom settings and flexible digital platforms. Meanwhile, self-study resources received the least support at 14.9%, implying that most students may benefit more from guided or structured instruction. These insights are valuable for designing a tailored and effective Medical English program.

### ***Rubric Four: Perceived Benefits and Recommendations for Medical English Integration***

The fourth section of the questionnaire (Q9–Q10) explored students' views on the potential advantages of incorporating Medical English into their academic journey and gathered their recommendations for implementing such a program at Tlemcen University. Participants were asked to reflect on how learning Medical English could support their academic performance and career readiness, particularly in terms of accessing global medical literature, improving communication, and expanding professional opportunities. Additionally, they were invited to suggest effective strategies for introducing Medical English into the curriculum, including preferred course content, delivery formats, and integration methods.

*Q9. In your opinion, how can learning Medical English benefit your academic and professional goals?*

This question aims to gather students' personal reflections on the advantages of acquiring Medical English skills, particularly in relation to academic advancement, access to global research, and professional opportunities in an increasingly international medical field. To better understand the responses obtained, it might be wiser to consider the following table.

**Figure 2.9:** Categorized Student Responses on the Benefits of Learning Medical English

<b>Benefit Mentioned</b>	<b>Number of Students</b>	<b>Percentage</b>
Access to medical research and literature	22	27.5%
Participation in international conferences/training	18	22.5%

Communication with foreign professionals/patients	14	17.5%
Opportunities for study or work abroad	10	12.5%
Self-training and online resources	6	7.5%
Understanding medical terminology and updates	5	6.2%
Unique or miscellaneous response	5	6.2%

The most frequently mentioned benefit of learning Medical English has been access to medical research and literature, cited by 27.5% of students. This reflects students' recognition of English as a gateway to global scientific knowledge. The second most common benefit, mentioned by 22.5%, is the ability to participate in international conferences or training. This is followed by communication with foreign professionals or patients (17.5%).

In addition, 12.5% of students have emphasized the importance of English for studying or working abroad, while 7.5% valued it for self-training and accessing online resources. A smaller group (6.2%) referred to understanding technical terms and staying updated, while another 6.2% gave unique responses that couldn't be grouped into the other categories.

These findings suggest that while all students acknowledge the value of Medical English, their priorities vary. Some focus more on academic research, while others emphasize international mobility or clinical communication. This range of perspectives highlights English not only as a subject but as a crucial tool for global engagement and career advancement.

*Q10. What suggestions would you provide for implementing an effective Medical English program at Tlemcen University?*

This question aimed to obtain practical suggestions from students on how Medical English should be introduced and taught at Tlemcen University. It sought to uncover their preferences in terms of course design, delivery methods, timing, and supporting resources. Therefore, on the basis of the results. To better understand the responses obtained, it might be wiser to consider the following table.

**Figure 2.10:** *Students' Suggestions for Implementing Medical English at Tlemcen University*

<b>Suggested Implementation Method</b>	<b>AF</b>	<b>RF</b>
Integrate Medical English from the first year	15	18.8%
Conduct workshops and intensive sessions	14	17.5%
Offer online courses and platforms	12	15.0%
Train teachers first / improve teacher proficiency	10	12.5%
Use English in lectures/slides/exams	9	11.2%
Gradual integration of English across modules	8	10.0%
Provide additional resources (articles, books, vocab tools)	6	7.5%
Unique or unclear responses		

The most common suggestion among students (18.8%) was to integrate Medical English from the first year, reflecting a strong desire for early and consistent exposure. This was followed closely by support for workshops and intensive sessions (17.5%), suggesting that students value focused, practical instruction. A notable portion (15%) favored online courses, indicating a demand for flexibility and accessibility. Besides, teacher training was emphasized by 12.5% of students, who strongly believe that teachers should be well-equipped with the necessary linguistic and pedagogical tools to deliver Medical English content.. Other suggestions included using English in lectures, slides, and exams (11.2%), and gradual integration of English across modules (10%), highlighting the importance of steady language development. Finally, a smaller group (7.5%) requested more learning resources, while another 7.5% gave unique or less frequent suggestions.

These responses reflect a thoughtful awareness of what it would take to make a Medical English program successful, emphasizing a structured yet supportive approach.

### **2.6.2 Teachers' Interview**

To complement the students' perspectives, interviews were also conducted with teachers to explore their experience with teaching English in a medical context, their familiarity with Medical English, and their views on integrating it into the curriculum at Tlemcen University.

#### **Rubric One: Teachers' Background and Experience**

This section explores teachers' backgrounds, teaching experience at Tlemcen University, and areas of expertise. The aim is to gain a comprehensive understanding of their profiles and their potential exposure to Medical English in their professional contexts.

**Q1: Could you briefly introduce yourself and your teaching experience?**

This question aimed to gather basic background information about the teachers' academic and professional experience. All 12 teachers interviewed have worked in the medical field, with teaching careers ranging from 2 to over 25 years. Some have international exposure and express familiarity with English-language materials. For instance, one teacher mentioned regularly consulting scientific articles in English, while another highlighted participation in international pedagogical projects. Overall, the tone of responses was positive, with several teachers describing their teaching experience as fulfilling, though occasionally challenging.

**Q2: How long have you been teaching at Tlemcen University?**

This question aimed to determine the teaching experience of each participant at Tlemcen University. The responses varied, ranging from 2 years to over 25 years. few teachers have also taught at other institutions before joining Tlemcen. Most have long-standing teaching careers within the university.

*Note: Interviews were selected as the research instrument to gather in-depth, qualitative insights from the teachers, allowing for detailed explanations and reflection on their professional practices and beliefs.*

**Q 3: What is your primary area of expertise or subject?**

This question aimed to identify each teacher's field of specialization. The majority came from core medical disciplines such as internal medicine, physiology, pharmacology, dentistry, and biochemistry. few teachers noted experience in interdisciplinary fields, including foreign languages applied to health, and integrating English medical terms into his instruction. One teacher specifically mentioned adapting their teaching to include elements of Medical English, which hints at growing awareness of the importance of English in specialized domains.

**Rubric Two: Teachers' Perceptions on the Role and Challenges of Medical English**

The six questions in this section are concerned with teachers' reflections on the role of English in medical education, the challenges faced by students in learning Medical English, and the overall evolution of language motivation and proficiency. These questions were divided between teachers of the old and new generations to highlight how perspectives may vary depending on teaching experience and exposure to institutional change.

**Q4: How has the role of English in medical education changed since you started teaching?**

This question aimed to uncover how experienced teachers perceived the evolution of English within the medical field over the years. Many old-generation teachers agreed that English has long held importance due to its dominance in scientific publication and international conferences. However, some mentioned that in earlier years, English was considered a secondary tool and not directly tied to core instruction, which remained predominantly in French. Few acknowledged that while the role of English grew globally, its integration into the local curriculum at Tlemcen University remained minimal, with one teacher stating bluntly that "no change" occurred. Overall, the trend shows that although awareness of English as a key resource has existed for decades, its practical incorporation in Algerian medical education remains limited.

**Q5: What challenges do you think students have been facing in learning English during your early years of teaching?**

This question aimed to identify historical barriers students have faced when learning English. Across responses, the most frequently cited challenge was students' difficulty with technical vocabulary and comprehension of

scientific articles. Several teachers noted that students lacked exposure to English in earlier educational stages, which made reading and understanding professional texts frustrating and discouraging. Some also pointed out issues with basic grammar, pronunciation, and lack of confidence. few admitted they had never explored the topic directly with students, reflecting a historical lack of focus on language development in the curriculum.

**Q6: Have you observed any specific improvements in students' English proficiency over the years?**

This question aimed to assess whether teachers noticed progress in student language abilities over time. Most teachers responded positively, citing improved access to online resources and increased exposure to English in earlier education levels as key factors. They observed that today's students are generally more familiar with English terminology and have greater comfort reading academic material. However, few noted that this improvement is uneven; while some students excel, others continue to struggle due to insufficient foundational skills. The inconsistency in progress reflects broader issues with language policy and support in the Algerian educational system.

***Q7: How do you perceive the role of English in the current medical curriculum?***

This question aimed to gather new-generation teachers' views on the relevance of English today. Most agreed that English is now essential in the medical field due to its role in accessing updated research, participating in international networks, and engaging with current medical discourse. Some believed the importance of English may even be overemphasized in the Algerian context, arguing that most local professional communication still occurs in French. few respondents expressed concern about the pressure English places

on students who already struggle with the French-dominated curriculum. This balance between global relevance and local context was a recurring theme.

***Q8: What specific challenges do you think students face with Medical English today?***

This question aimed to identify current difficulties students experience with Medical English. Teachers cited several issues: lack of oral practice, poor vocabulary retention, and limited exposure to authentic materials. Some noted that students feel overwhelmed by the volume of English-language content and struggle to prioritize what is essential. Others mentioned a lack of institutional support, such as clear language pathways or preparatory courses. Interestingly, one teacher highlighted that even instructors rarely use English, which reduces students' motivation and practical opportunities to engage with the language.

***Q9: Do you feel students are motivated to learn Medical English? Why or why not?***

Teachers identified several challenges that affect students' motivation to learn Medical English:

- Lack of perceived immediate relevance in the local medical context
- Institutional limitations, such as an inflexible curriculum
- Insufficient pedagogical support, including untrained staff and lack of materials
- Minimal exposure to English in real-life or clinical settings
- Assessment practices focused on rote learning rather than communication

These challenges were seen as significant factors reducing students' engagement. While some students, particularly those aiming to study or work abroad, showed genuine motivation, others viewed Medical English as just another subject required for passing exams. Teachers highlighted that despite these obstacles, most students are aware of the language's long-term value in

their careers. However, without institutional support and meaningful classroom implementation, this awareness does not always translate into active motivation.

***Q10: In your opinion, should Medical English be taught as a separate course or integrated into existing medical subjects? Why?***

The table below summarizes teachers' preferences regarding the delivery of Medical English:

<b>Option</b>	<b>Number of Teachers</b>	<b>Comments/Reasoning</b>
Integrated into existing medical subjects	8	Encourages contextual use of language, supports skill transfer, and makes learning more relevant.
Taught as a separate course	3	Allows deeper focus on language structure and skills, especially for beginners.
Combination of both approaches	1	Suggested balance between integration and targeted instruction.

Most teachers favored integration into medical content, noting that this approach contextualizes language and increases its relevance to students' future careers. It also supports the development of practical communication skills required in clinical environments.

However, few teachers preferred a separate course, arguing that it allows for a structured focus on grammar, vocabulary, and foundational skills that students may lack.

One teacher suggested a blended model, combining integration with stand-alone sessions, to address varied student needs and ensure both fluency and accuracy.

### **Rubric Three: Curriculum and Teaching Approaches to Medical English**

The three questions in this section are concerned with how Medical English should be delivered in the curriculum, what teaching methods are considered most effective, and how the program can be adapted to better support students. These insights reflect the practical strategies and pedagogical preferences of experienced teachers when it comes to integrating English in medical education.

#### ***Q11: What teaching methods or resources do you believe are most effective for teaching Medical English?***

This question aimed to identify the instructional strategies teachers consider most effective for teaching Medical English. Out of the 16 teachers interviewed, 7 teachers (43.7%) recommended interactive methods such as role-plays, case studies, and clinical simulations, stating that these approaches help students practice medical vocabulary in realistic contexts. Five teachers (31.2%) highlighted the usefulness of multimedia resources, including videos, YouTube, and Google tools, which they felt made learning more engaging and accessible. Two teachers (12.5%) favored translation-based resources, like glossaries or bilingual texts, arguing that these were more suitable for students who are still not fully comfortable with English immersion. One teacher (6.3%) emphasized the importance of contextualizing language instruction, insisting that English should always be linked to practical medical communication rather than taught in isolation. Overall, most responses reflected a preference for dynamic, practical methods that promote student engagement, though few teachers remained cautious about relying entirely on English-medium instruction in the Algerian context.

***Q12: How can the curriculum be adapted to better prepare students for using English in their medical careers?***

This question aimed to gather suggestions on how to improve the current medical curriculum to support English learning. Out of the 16 teachers interviewed, 6 teachers (37.5%) recommended introducing English earlier in the program, ideally from the first year, to allow students to build familiarity progressively. Five teachers (31.2%) emphasized incorporating more practical activities, such as workshops, clinical role-plays, and research-based presentations in English. Three teachers (18.7%) suggested collaborative strategies like bilingual research projects or structured student exchanges. Two teachers (12.5%) stressed the importance of training instructors in Medical English pedagogy to ensure more effective delivery. Another two (12.5%) proposed offering optional English workshops instead of making them mandatory, to prevent overburdening students. Additionally, 4 teachers (25%) underlined the need for general English instruction before introducing technical medical vocabulary. Although suggestions varied, there was unanimous agreement that the curriculum must evolve to address the increasing role of English in global medical communication.

**Rubric Four: Comparing Generational Perspectives on Teaching Medical English**

The two questions in this section are concerned with how teaching experiences and methods differ between old and new generations of teachers. They aim to capture advice from senior teachers for their younger colleagues, and reflections from the new generation on how to adapt or blend traditional teaching practices with modern needs in the context of Medical English instruction.

***Q13: What advice would you give to new-generation teachers about teaching Medical English?***

This question aimed to gather recommendations from experienced teachers to those who are newer in the field. A dominant theme across responses was the need for balance many advised younger teachers to embrace new technologies and innovative methods such as digital tools, interactive activities, and student-centered strategies. At the same time, they emphasized the importance of respecting foundational teaching principles, particularly clarity, structure, and gradual learning progression. Some stressed the need for practical examples, suggesting that clinical relevance and real-world application would help engage students more effectively. few teachers cautioned against rushing English instruction, warning that it should not overshadow core medical content or burden students unnecessarily. One teacher highlighted the importance of having a strong personal command of English before teaching it, noting that teacher fluency greatly impacts instructional quality.

***Q14: How can the teaching approaches of older generations inform the current methods for teaching Medical English?***

This question aimed to explore how modern teachers perceive the influence of older teaching styles. Teachers offered several insights and suggestions for integrating traditional methods with current practices:

- Emphasize foundational skills: 10 teachers (62.5%) valued the traditional focus on grammar, vocabulary, and reading comprehension, stating that these provide a strong base for advanced communication tasks.
- Adopt hybrid approaches: 6 teachers (37.5%) recommended blending older methods with contemporary techniques such as blended learning, group projects, and oral practice to make lessons more engaging and practical.

- Use bilingual texts and comparative reading: 3 teachers (18.7%) supported the idea of using bilingual materials to enhance understanding and ease the transition into full English instruction.
- Maintain and adapt traditional methods: There was general consensus that older approaches remain relevant. Rather than discarding them, teachers suggested updating and enriching them to meet modern learning needs.

In summary, most teachers saw value in combining the structure of traditional approaches with the interactivity of modern methods to optimize Medical English teaching.

#### **Rubric Five: Future Role and Recommendations for Medical English at Tlemcen University**

The two questions in this final section are concerned with teachers' views on the future importance of English in medical education and their suggestions for improving the current curriculum. These insights provide a forward-looking perspective on the institutional direction of Medical English and offer valuable proposals for its development.

#### ***Q15: What role do you see English playing in the future of medical education at Tlemcen University?***

This question aimed to uncover teachers' visions of how English might evolve within the university's medical education framework. A majority of teachers acknowledged a growing and increasingly essential role for English, particularly in the context of globalization, international collaboration, and scientific research. Many emphasized its importance in accessing up-to-date medical knowledge, attending conferences, and improving the overall quality of education. few respondents, however, expressed caution suggesting that English should be introduced gradually and not at the expense of educational accessibility. They stressed that while English is clearly beneficial, it should

remain a tool for advancement, not a barrier that excludes students. Overall, teachers generally agreed that English will play a central role in the future, provided that its integration is thoughtful and adapted to the local context.

***Question 16: If you could suggest one major change to the curriculum regarding Medical English, what would it be?***

This question aimed to obtain actionable suggestions for improving the role of English in the medical curriculum. Many teachers recommended introducing a dedicated Medical English module early in the curriculum, ideally in the first year. Several stressed the importance of communication-focused instruction, especially related to clinical and intercultural interactions. Some advocated for practical, skill-based learning, using real medical texts and authentic resources. Few proposed that English should be optional, particularly for students struggling with French, while others supported a gradual and scaffolded approach supported by coordinated teaching between language and medical faculty. Interestingly, one teacher suggested introducing a specialized course in critical reading of medical articles, reflecting a need for more academically relevant English instruction. Although their suggestions differed, all teachers agreed that any change must be tailored to students' real needs and linguistic levels, and aimed at preparing them for a competitive, globally connected medical field.

## **2.7 Data Analysis and Interpretation**

This section discusses the key findings from both the students' questionnaires and teachers' interviews. The goal is to interpret what the collected data reveals about the current state of Medical English instruction at Tlemcen University, and how both students and teachers perceive its integration, relevance, and challenges. The analysis merges quantitative data from students' responses

with qualitative insights from teacher interviews, providing a balanced understanding of the situation.

From the student data, it was evident that English is widely perceived as important for academic success and future careers. A large majority rated English as “very important” or “important,” particularly for accessing international research, writing academic papers, and communicating with professionals in global medical contexts. This aligns with teachers’ views, many of whom recognized a growing role for English in the curriculum. However, while both groups agreed on its importance, several gaps and contradictions emerged regarding how English is currently taught and used.

Students reported low proficiency levels, with many struggling in areas like reading complex medical texts and speaking fluently. The data also highlighted that technical vocabulary and limited oral practice are major barriers. Teachers confirmed these difficulties, often attributing them to the lack of early language preparation and the overwhelming reliance on French. Some teachers were concerned that the shift toward English was being rushed, potentially alienating students who already faced heavy academic loads.

The questionnaire revealed strong student support for integrating Medical English into the curriculum, especially through interactive formats like workshops, weekly sessions, and online modules. Teachers also favored interactive, clinically-relevant approaches such as role-play and case simulations. However, not all teachers agreed on the best way to implement change some favored optional modules, while others suggested full integration into existing medical subjects.

In interpreting the open-ended responses, it became clear that many students see English not only as an academic requirement but also as a gateway to global opportunities. Their suggestions focused on practical learning more exposure,

longer course durations, and access to medical texts in English. Teachers echoed this, recommending gradual implementation, improved coordination between language and subject experts, and teacher training.

In summary, while there is broad agreement on the necessity of Medical English, both the data from the questioner and interviews suggest a disconnect between recognition and implementation. Students are motivated but underprepared. Teachers are aware but divided on methods. The findings point to the need for a well-structured, context-sensitive approach to English instruction one that respects local challenges while opening doors to global medical knowledge and communication.

## **2.8 Discussion of the Main Results**

The results of this study reveal a complex but consistent narrative surrounding the integration of English for Medical Purposes (EMP) at Tlemcen University. Both students and teachers acknowledged the growing importance of English in medical education, especially in a context increasingly influenced by globalization, scientific research, and the need for international collaboration. However, despite this shared awareness, several challenges continue to hinder effective language acquisition and curriculum integration.

From the students' side, a clear majority reported that English is essential for academic growth and professional mobility. Their responses confirmed that English proficiency is perceived as a key to accessing research, communicating with international peers, and participating in global medical discussions. Yet, their self-assessed language competence remains modest. A significant number of students admitted to struggling with core skills such as reading complex texts, understanding technical vocabulary, and speaking fluently. This contradiction between perception and performance suggests that while motivation is present,

the instructional environment may not be supportive enough to meet learners' needs.

These concerns were reinforced by teachers, especially those from the older generation. Many reported that English has always been important in their professional careers, particularly for accessing scientific knowledge. However, they also noted that English has traditionally been treated as a secondary or optional tool in Algerian medical education used mostly for reading journals or preparing conference presentations. This legacy seems to have shaped a curriculum that exposes students to English late and insufficiently, often without proper pedagogical support.

Interestingly, newer-generation teachers expressed more optimism about the potential of EMP but voiced concerns about implementation. They emphasized the need for contextualized, interactive instruction and called for curriculum changes that include EMP from the first year of medical studies. Their insights align with students' preferences for practical formats like workshops, online modules, and role-playing activities. Both groups agree that passive exposure to English is not enough what students need is active engagement with the language in real medical situations.

Another major finding is the disconnect between language policy and student preparedness. While English is gaining importance at the national policy level being introduced earlier in the school system and promoted in higher education it is still competing with French, which dominates instruction in scientific subjects. As a result, many students find themselves juggling three languages (Arabic, French, and English) without the institutional or cognitive tools to manage the transition effectively.

Overall, the data suggest that the introduction of Medical English is not just a linguistic shift but a pedagogical and structural one. For it to succeed,

reforms must go beyond adding few English sessions to the syllabus. They must involve curriculum redesign, teacher training, and resource development tailored to the realities of Algerian higher education. Medical English must become a purposeful part of the student's journey, not an afterthought or academic burden.

The findings of this study confirm what many researchers in ESP have highlighted successful language integration depends on alignment between student needs, institutional goals, and pedagogical strategies (Basturkmen, 2010; Paltridge & Starfield, 2013). Tlemcen University has taken initial steps in this direction, but as this study shows, there is still work to be done to bridge the gap between intention and outcome. **Diss should contains hyp if confir**

## 2.9 Conclusion

This chapter presented the methodology and analysis that guided the investigation into the role and integration of English for Medical Purposes at Tlemcen University. Using a combination of student questionnaires and teacher interviews, the research adopted both quantitative and qualitative approaches to explore current practices, attitudes, and challenges surrounding Medical English instruction.

The results show a strong consensus on the importance of English in the medical field, especially as students aim to access international resources, participate in research, and enhance their professional opportunities. Yet, despite this recognition, a gap persists between students' motivation and their actual proficiency. Similarly, while teachers acknowledge the necessity of English in modern medical education, they remain divided on the best methods for integrating it effectively into the curriculum.

Overall, the findings suggest that while Medical English is becoming increasingly relevant, its implementation requires thoughtful planning, targeted

pedagogical strategies, and sustained institutional support. The next chapter will provide recommendations aimed at narrowing this gap and supporting a more practical and student-centered approach to Medical English in Algerian medical education.

# **Chapter Four: Challenges and Limitations**

### 3.1 Challenges

Despite the value and potential of introducing Medical English into Algerian medical education, several challenges emerged during the research process. These obstacles are related both to the academic framework of the study such as gaps identified in the literature and data collection and to systemic issues within the national educational context. Recognizing these challenges is essential to better understand the constraints that may hinder the effective implementation of Medical English and to inform future improvements.

#### 3.1.1 Identified Limitations in the Literature and Fieldwork

Chapters One and Two provided valuable theoretical and empirical insights into the integration of Medical English in Algerian medical education. However, several limitations were identified in the content and scope of these chapters. In Chapter One, the literature review showed a clear lack of localized research specifically addressing English for Specific Purposes within Algerian medical faculties. Most of the references focused on general ESP applications or international contexts, offering limited relevance to the unique linguistic and institutional characteristics of Algeria. This limited the ability to draw direct comparisons or propose context-specific adaptations.

In Chapter Two, while the interviews with students and teachers generated useful perspectives, the sample was drawn from a single university. This restricted the diversity of viewpoints and limited the generalizability of the findings across different institutions. Moreover, although participants provided thoughtful feedback, some important areas such as assessment strategies, the development of instructional materials, and interdepartmental collaboration were not explored in depth.

Overall, these limitations highlight the need for broader studies involving multiple universities and a more comprehensive investigation into the

pedagogical and administrative requirements for successfully implementing Medical English in Algerian higher education.

### **3.1.2 Educational System Constraints**

The integration of Medical English into Algerian medical faculties faces several challenges linked to the structure and policies of the national educational system. One of the primary issues is the rigidity of the curriculum, which leaves limited space for interdisciplinary content such as language instruction within the framework of scientific training. Medical programs are tightly organized around core medical and biological subjects, with little flexibility for incorporating non-traditional modules like English for Specific Purposes (ESP).

English, when present in the curriculum, is often treated as a general subject rather than one tailored to the linguistic demands of medical contexts. There is a clear lack of structured planning or clear learning outcomes for Medical English, and in most cases, it is neither prioritized by curriculum designers nor perceived as essential by administrative staff. This low status is reinforced by the absence of a defined coefficient for English in the evaluation system, particularly during the first year of medical studies. As a result, both teachers and students tend to view English as an optional skill rather than a fundamental component of professional competence.

Another constraint is the limited availability of curriculum development mechanisms that support innovation. Proposals for new modules or instructional approaches must often go through lengthy administrative procedures, which discourages educators from initiating change. In addition, the lack of coordination between language departments and medical faculties further complicates collaborative efforts to create relevant and contextualized English instruction.

There is also a noticeable gap in institutional support for integrated teaching methods. While content and language integrated learning (CLIL) is widely used in other contexts to blend language instruction with subject content, this approach remains largely unexplored in Algerian medical education. Teachers may be willing to innovate, but they are rarely provided with the resources, training, or structural support to do so.

Finally, the centralization of educational decisions at the national level restricts universities from adapting their programs to local needs. Without autonomy in curriculum planning, medical faculties are limited in their ability to respond to the increasing global demand for English-language proficiency in medicine. These systemic constraints present a significant barrier to the widespread adoption of Medical English in Algeria, and any reform efforts must begin by addressing these structural issues at both institutional and ministerial levels.

### **3.2 Limitations**

Although this research provides meaningful insights into the integration of Medical English in Algerian medical education, it is important to acknowledge the limitations that may have influenced the scope, depth, and generalizability of the findings. These limitations are related to both methodological and contextual factors, including institutional constraints, sample characteristics, and language proficiency issues. Recognizing these constraints allows for a more accurate interpretation of the results and highlights areas where future research and institutional efforts should be directed.

#### **3.2.1 Insufficient Teacher Preparation in ESP**

A significant limitation identified in this study is the inadequate preparation of language teachers to effectively deliver English for Specific Purposes (ESP), particularly within medical contexts. While many English instructors in Algerian

universities possess strong qualifications in general English language teaching, few have received formal training in ESP or in the specific linguistic demands of medical fields. This lack of specialization can hinder the effectiveness of instruction and limit students' ability to engage with field-specific language use.

Medical English requires not only an expansion of vocabulary but also a deep understanding of medical terminology, discourse conventions, and the communicative practices used in professional healthcare environments. Teachers unfamiliar with this domain may struggle to design appropriate materials or deliver content that aligns with students' future needs. For instance, some instructors have reported uncertainty about integrating authentic medical content into language lessons, leading to a reliance on generic activities that lack relevance.

The scarcity of specialized ESP teacher training programs exacerbates this issue. According to Papadima-Sophocleous et al. (2019), ESP teacher education remains underrepresented in many teacher training curricula, leaving educators to adapt general English teaching methods to specialized contexts without adequate support. This gap often results in inconsistent teaching approaches and quality across institutions.

Furthermore, collaboration between language teachers and medical faculty is minimal. A well-functioning ESP program requires ongoing communication between content specialists and language instructors to ensure that course objectives are aligned and that students receive language instruction that directly supports their medical studies. However, such collaboration is rare and, in most cases, informal or nonexistent. This disconnect leads to a fragmented learning experience for students and weakens the integration of English into the broader curriculum.

Addressing this limitation necessitates a systematic approach to training and development. Universities must invest in targeted ESP training programs for language instructors, ideally involving partnerships with medical professionals to ensure that the linguistic content taught is accurate and contextually appropriate. Additionally, institutional policies should encourage collaboration between departments and recognize ESP instruction as a professional specialization requiring ongoing support. Without addressing the issue of teacher preparedness, the effectiveness of Medical English programs will remain limited, regardless of curricular reforms or student motivation.

### **3.2.2 Curriculum Gaps in English Modules and Coefficient Issues**

Another major limitation identified in the study concerns the structure and placement of English language instruction within the medical curriculum. In Algerian universities, English is often treated as a general support subject rather than as a specialized tool tailored to the needs of medical students. This results in a lack of clear learning objectives, insufficient alignment with medical content, and limited instructional hours allocated to English courses.

One critical issue is the absence of dedicated Medical English modules in the early years of medical training. English is frequently introduced through broad, non-specialized courses that do not address the specific communicative demands of the healthcare field. As a result, students are left with a basic, often inadequate, command of English vocabulary and discourse, which does not equip them for tasks such as reading scientific articles, interacting with foreign professionals, or attending international conferences.

In addition, the problem is compounded by the issue of coefficient assignment within the curriculum. In the Algerian higher education system, each subject is assigned a coefficient that reflects its academic weight and impact on students' overall performance. English typically receives a low or even non-

existent coefficient in medical programs, particularly in the first year. This diminishes its perceived value and discourages students from engaging seriously with the course. Several teachers interviewed in this study reported that students often regard English as a “side subject” that does not influence their academic success, leading to a lack of motivation and inconsistent performance.

The curriculum also lacks progression in English instruction. There are few, if any, structured pathways for students to build on their language knowledge over the course of their studies. This contrasts with international models where Medical English is gradually introduced through increasingly complex modules that parallel students' development in core medical subjects. Without a progressive and coherent language curriculum, Algerian medical students face difficulties in reaching the level of proficiency needed for effective international communication and research.

Reforming the curriculum to include dedicated Medical English modules, assigned with meaningful coefficients and aligned with students' academic trajectory, is essential. Moreover, these modules should be developed in coordination with medical staff and language specialists to ensure content relevance and pedagogical effectiveness. Without addressing these structural deficiencies, any efforts to promote English in medical education will remain marginal and unsustainable.

### **3.2.3 Low Student Proficiency in English and French**

A further limitation affecting the implementation of Medical English in Algerian universities is the low language proficiency of many medical students, not only in English but also in French, which is currently the dominant language of instruction in Algerian medical education. This dual-language challenge creates a significant barrier to integrating English as a meaningful part of the curriculum.

During the interviews, both teachers and students highlighted the fact that many learners enter university with a limited command of English, often having studied it only at a basic level in secondary school. Their exposure is usually limited to general English, with little to no focus on academic or professional usage. Consequently, when confronted with complex medical terminology, students struggle to grasp both meaning and context. Teachers reported that even the simplest medical texts in English can present significant challenges for students, reducing their ability to participate in meaningful learning activities.

Compounding this issue is the fact that students' proficiency in French, the primary language of medical instruction, is also often weak. Many students come from Arabic-speaking backgrounds and have difficulty operating in a second or third language at an academic level. This linguistic gap undermines their ability to transfer knowledge between languages and makes it harder for them to bridge their existing learning with new English-language materials.

The lack of diagnostic tools to assess student proficiency accurately at the beginning of their university studies contributes to the problem. Without clearly identifying the starting level of each student, educators cannot effectively design courses that are tailored to learner needs. This results in classrooms where language instruction is either too basic for some or too advanced for others, further limiting progress and motivation.

Moreover, the low proficiency levels also impact classroom dynamics. Students with limited language skills are often hesitant to participate in oral tasks, group discussions, or interactive exercises. This reduces their exposure to authentic use of English and reinforces passive learning habits. The issue becomes particularly critical in later years, when students are expected to access international research, attend scientific events, or even engage in internships abroad activities that require solid English language skills.

To address this limitation, universities must adopt a more strategic approach to language support. This includes implementing placement tests to determine initial proficiency levels, designing remedial programs for students who need additional support, and ensuring that English instruction progresses in line with students' academic development. Without tackling the underlying issue of low proficiency in both English and French, the broader goal of integrating Medical English into the curriculum will remain difficult to achieve.

### **3.2.4 Absence of a bridging year to Assess Student Level Properly**

One of the structural limitations in Algerian medical education that affects the implementation of Medical English is the absence of a transitional academic year, often referred to in other systems as an “*année de passage*” or bridging year. This transitional stage is designed in many educational systems to evaluate and consolidate students' language and academic readiness before they begin specialized university-level studies. In the Algerian context, however, students move directly from secondary education into demanding medical programs without any formal assessment or preparatory period to gauge their actual linguistic and academic capabilities.

This lack of transitional evaluation is particularly problematic for English, which is often underemphasized in secondary education, especially in the sciences. Students arrive at university with highly varied and often weak levels of English, yet they are immediately expected to adapt to an academic environment that increasingly requires the use of English for accessing international literature, understanding terminology, and eventually engaging in professional communication. Without a structured mechanism to identify and address these gaps early on, students fall behind and lose confidence in their language abilities.

Several instructors interviewed in this study expressed concern about the uneven language levels among first-year students. In the absence of standardized diagnostic tools or bridging modules, teachers are forced to assume a baseline that may not reflect the true capabilities of their students. This misalignment negatively impacts course design and delivery. Some students may be overwhelmed by the difficulty of the material, while others are not challenged enough, leading to disengagement.

Moreover, the absence of an “*année de passage*” prevents institutions from offering targeted preparatory courses that could help students build foundational skills in both general and medical English. In many international contexts, such a year includes English for Academic Purposes (EAP) or English for Specific Purposes (ESP) modules tailored to the students’ field of study. These preparatory programs not only strengthen students’ language proficiency but also familiarize them with academic conventions, critical reading, and oral presentation skills essential for success in higher education.

Introducing a structured transitional year or bridging module would be a valuable reform in Algerian medical education. It would allow institutions to properly assess student needs, design responsive English language instruction, and reduce the performance gap between students with different linguistic backgrounds. Until such a system is implemented, the lack of initial language assessment will continue to hinder the development of effective Medical English programs.

### **3.2.5 Difficulty Defining Student Language Levels Accurately**

An additional limitation identified during this research is the lack of accurate and standardized measures for assessing students’ English language proficiency in Algerian medical faculties. While student language ability plays a central role in the success of Medical English programs, institutions rarely

implement diagnostic tools or consistent frameworks to determine learners' levels at the point of entry. As a result, teachers are left to rely on personal impressions, classroom behavior, or outdated academic records to gauge students' capabilities.

This ambiguity leads to multiple challenges in course planning and delivery. Teachers cannot confidently adjust the pace or complexity of instruction when they are unsure of their students' real proficiency levels. Lessons may become too advanced for weaker students or too basic for those who already possess moderate fluency, leading to disengagement and uneven progress. Instructors interviewed in this study expressed frustration at the wide variation in language levels within a single group, which often made it difficult to select appropriate materials or structure classroom activities effectively.

The problem is further complicated by the absence of a national or institutional language benchmark. Unlike many universities worldwide that use the Common European Framework of Reference for Languages (CEFR) or other standardized scales to classify language proficiency, Algerian medical schools generally do not employ such frameworks in a formal way. This results in a lack of continuity between secondary and tertiary education, with students entering university underprepared but not formally identified as needing language support.

Moreover, language assessment in existing English modules, when present, tends to focus on grammar and vocabulary memorization rather than communicative competence or professional application. Students may pass exams without being able to use English effectively in academic or clinical contexts. This disconnect between evaluation and real-world needs undermines the overall purpose of integrating English into medical education.

To address this limitation, institutions should consider introducing placement tests or language screening tools at the beginning of the academic year. These could help categorize students into proficiency bands and inform curriculum adjustments or remedial course offerings. Additionally, training teachers to interpret these results and differentiate instruction accordingly would greatly improve classroom efficiency and student learning outcomes.

In conclusion, the inability to accurately define students' language levels weakens the foundation upon which any Medical English program must be built. Without reliable data on learner proficiency, curriculum development, instructional methods, and learning outcomes remain speculative and inconsistent.

### **3.3 Relevant Practices in English-Medium Medical Education: The Russian University Example**

A relevant example that highlights the impact of English-medium instruction in medical education comes from a study comparing two Russian universities. In the first university, medicine is taught entirely in English, while in the second, the curriculum is delivered in Russian.

The study showed that students in the English-medium university demonstrated stronger English proficiency, better access to international medical literature, and greater readiness for global academic exchange. These students were more confident in using English for clinical communication, research, and presentations, compared to those studying in the Russian-medium institution, who faced more challenges when engaging with global content.

This example underlines the importance of embedding English into the medical curriculum not only as a subject but also as a language of instruction. It demonstrates how early and consistent exposure to English in academic and

clinical settings can significantly enhance students' language skills, professional readiness, and international mobility.

### **3.4 Addressing Challenges through Pedagogical Strategies**

In light of the challenges identified in the implementation of Medical English at Tlemcen University, this section proposes a set of pedagogical strategies aimed at enhancing both teaching and learning experiences. These strategies are designed to address linguistic, terminological, and methodological difficulties encountered by students and instructors alike. By aligning classroom practices with the specific needs of medical students, these recommendations aim to foster greater engagement, comprehension, and long-term retention of specialized content.

#### **3.4.1 Practical Exercises to Strengthen Medical English Skills**

To enhance the effectiveness of Medical English instruction, practical and interactive classroom exercises should be integrated into the learning process. The following activities are designed to build students' confidence and competence in using English in real medical contexts. These methods are adaptable and can be applied progressively, from foundational language skills to advanced communication.

##### **1. Medical Case Study Discussions**

- **Exercise:** Assign students real or simulated medical case studies to read and discuss in English.
- **Example:** Present a case of a patient with diabetes and ask students to analyze symptoms, diagnosis, and treatment options using accurate medical terminology.

##### **2. Role-Playing Medical Scenarios**

- **Exercise:** Students practice doctor-patient interactions, consultations, or emergency responses in English.
- **Example:** One student acts as a doctor explaining medication instructions; another plays the patient asking about side effects.

### 3. Medical Vocabulary Workshops

- **Exercise:** Conduct vocabulary-building sessions using flashcards, quizzes, or term-matching games.
- **Example:** Match layman's terms with their medical equivalents (e.g., “fever” → “pyrexia”) or write sentences using newly introduced terminology.

### 4. Review of English Medical Literature

- **Exercise:** Assign students to read recent English-language journal articles or medical reports and summarize key points.
- **Example:** Summarize an article on COVID-19 vaccine efficacy and present the findings to the class.

### 5. Writing Patient Histories and Medical Reports

- **Exercise:** Practice writing documents such as patient histories, progress notes, or discharge summaries.
- **Example:** Compose a discharge report for a post-operative patient using proper clinical formatting and terminology.

### 6. Listening Comprehension with Medical Podcasts or Videos

- **Exercise:** Use medical lectures, interviews, or podcasts for listening practice followed by guided questions.

- **Example:** Listen to a podcast on cardiovascular diseases and answer comprehension questions to assess understanding.

### 7. Peer Teaching Sessions

- **Exercise:** Students prepare short, informative presentations on medical topics in English.
- **Example:** A student presents the pathophysiology of asthma using structured language and visual aids.

### 8. Medical English Quizzes

- **Exercise:** Conduct regular quizzes focused on terminology, grammar, and comprehension within a medical context.
- **Purpose:** Reinforce learning and provide low-stakes assessment to monitor progress.

### 9. Participation in International Medical Forums

- **Exercise:** Encourage students to engage in online medical forums, webinars, or discussion boards in English.
- **Example:** Join a global health webinar and ask a question or contribute to a live discussion.

### 10. Translation Practice (Native Language to English)

- **Exercise:** Assign translation of basic medical documents or patient instructions into proper English.
- **Example:** Translate a patient consent form or medication guide from Arabic or French into clear English.

These exercises can be incorporated into weekly lesson plans or workshops, allowing students to progressively build their linguistic competence in line with

their medical training. Regular implementation will enhance both fluency and confidence, better preparing learners for global medical communication.

### **3.4.2 Comparative Linguistic Insights: English and French in Medical Terminology**

One of the most noteworthy observations during this research is the linguistic proximity between English and French in medical vocabulary. This similarity is largely due to the common Latin and Greek roots shared by both languages, particularly in scientific and technical domains. In the context of Algerian medical education where French remains the primary language of instruction this connection presents a valuable opportunity. Leveraging the similarities between the two languages can ease the transition into Medical English for students and facilitate vocabulary acquisition.

In fields such as cardiology, pharmacology, and neurology, the overlap between English and French terms is striking. Words like “cardiovascular,” “nutrients,” “oxygen,” “system,” and “hormones” appear in both languages with minimal changes in form or pronunciation. This allows learners with a foundation in French to access and recognize English medical terms more easily. However, this linguistic alignment becomes less consistent in anatomy, where some basic terms diverge more noticeably between the two languages.

Below are examples illustrating this similarity and divergence:

#### **Example 1: Basic Anatomical Vocabulary**

- English: bone, heart, muscle, blood
- French: os, cœur, muscle, sang

While “muscle” is identical, “bone” and “blood” differ significantly from their French counterparts.

#### **Example 2: Cardiovascular System**

- English: The cardiovascular system includes the heart and blood vessels. It is responsible for transporting oxygen, nutrients, and hormones throughout the body.
- French : Le système cardiovasculaire comprend le cœur et les vaisseaux sanguins. Il est responsable du transport de l'oxygène, des nutriments et des hormones dans tout le corps.

#### Example 3: Nervous System

- English: The central nervous system consists of the brain and spinal cord. It processes information and controls body functions.
- French: Le système nerveux central est composé du cerveau et de la moelle épinière. Il traite l'information et contrôle les fonctions du corps.

These examples reveal that, while structural and lexical similarities are helpful for vocabulary transfer, there is still a need for structured instruction to address the differences especially in anatomy and more idiomatic expressions.

Therefore, from a pedagogical standpoint, a bilingual approach that draws students' attention to these similarities and differences can be an effective strategy. It can build on their existing knowledge of French while gradually reinforcing English medical terminology, helping learners become more confident in navigating both languages within clinical and academic contexts.

### 3.5 Suggestions

Based on the findings presented in this study and the challenges identified throughout the research process, several suggestions are proposed to support the effective introduction and implementation of Medical English at Tlemcen University and similar institutions in Algeria. These recommendations are

grounded in both theoretical understanding and the practical insights gained from students and teachers.

Firstly, it is essential to begin introducing Medical English from the first year of medical studies. Early exposure helps students build a solid foundation in technical vocabulary, academic reading, and oral communication. A progressive curriculum that aligns Medical English instruction with students' academic development can foster greater engagement and improved outcomes.

Secondly, there is a clear need for the creation of context-specific teaching materials. These resources should be developed collaboratively by language instructors and medical professionals to ensure that they are both linguistically accessible and medically accurate. Bilingual glossaries, adapted case studies, and simplified journal articles could serve as helpful tools for students at various proficiency levels.

Thirdly, teacher training must be prioritized. English instructors who are tasked with teaching Medical English require targeted training in English for Specific Purposes (ESP), as well as a basic understanding of medical discourse. Investment in professional development programs and international collaboration can help build this capacity.

Another key suggestion is to implement diagnostic language assessments at the beginning of the academic year. These assessments will help place students into appropriate learning tracks based on their language proficiency and allow for better instructional planning.

Finally, it is recommended that future reforms consider the integration of bilingual teaching strategies, especially for students transitioning from French-medium instruction. As highlighted in section 3.4.2, the overlap between English

and French medical terminology provides a valuable opportunity for reinforcing learning across both languages.

These suggestions aim to contribute to a more effective, inclusive, and practical approach to Medical English education that reflects both global trends and local realities in Algerian higher education.

### **3.5.1 Comparative Curriculum Design and Language Acquisition**

A further recommendation is to rethink the structure and content of medical curriculum modules by drawing on international examples, such as those implemented in English-medium Russian universities. Unlike most Algerian programs, these institutions often integrate Medical English instruction through specialized modules scheduled in the afternoon, allowing for more focused language immersion beyond core scientific courses.

This structural differentiation not only reinforces technical language but also promotes acquisition through repeated exposure to materials, assessments, and real-world practice. This approach aligns with Guy Cook's theory of language acquisition in applied linguistics, which emphasizes that language is most effectively learned when it is used in meaningful, purposeful contexts rather than in isolation. According to Cook (2001), language acquisition improves when learners are exposed to input that is relevant, repeated, and integrated into their academic or professional environments.

Adopting similar practices in Algerian medical faculties could enhance the acquisition of English by embedding it more consistently into academic routines. Modules delivered in English, paired with subject-relevant tasks such as case studies, clinical simulations, and bilingual assessments, would allow students to experience the language not as a separate subject, but as an essential tool for their future professional us

### General Conclusion

This research examined the current status and future potential of Medical English in Algerian medical education, with a focus on Tlemcen University Abou Bakr Belkaid on Biomedical sciences as a representative case study. Drawing from English for Specific Purposes (ESP) theory and applied linguistics, the study explored students' and teachers' critical perceptions, identified institutional and pedagogical barriers, and evaluated international practices for possible local adaptation. Through a qualitative approach using questionnaires and interviews, the research aimed to propose context-sensitive strategies for improving Medical English instruction in Algerian faculties.

The study addressed four central research questions. The first explored how students perceive Medical English in relation to their academic and professional futures. The majority of student responses confirmed a high level of awareness of the importance of Medical English, particularly for accessing international scientific content and pursuing postgraduate studies abroad. However, students also expressed frustration over the lack of structured instruction and institutional support, which confirms Hypothesis 1: *Algerian medical students recognize the importance of Medical English but lack adequate instructional support.*

The second research question identified the key barriers to integrating Medical English. Both students and teachers cited low English proficiency, limited class time, a French-dominant curriculum, and the absence of specialized teaching materials. Teachers also mentioned a lack of training in English for Medical Purposes (EMP). These findings confirm Hypothesis 2: *The integration of Medical English into Algerian medical education is hindered by institutional, pedagogical, and linguistic barriers.*

## General conclusion

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The third research question investigated whether a bilingual approach could ease students into Medical English. Analysis in Chapter Three, including comparative vocabulary and anatomy examples, demonstrated strong lexical overlap between English and French medical terms. This overlap can be leveraged as a pedagogical tool. Hence, Hypothesis 3 is validated: *A bilingual approach that highlights similarities between English and French medical terminology can facilitate students' acquisition of Medical English.*

The fourth research question evaluated how international models, specifically Russian universities, can inform Algerian reform. In English-medium Russian institutions, Medical English is embedded early in the curriculum and reinforced through afternoon sessions, interactive materials, and task-based instruction. This model offers clear benefits for Algerian adaptation and supports Hypothesis 4: *International curriculum models, such as English-medium instruction used in Russian universities, can serve as effective references for reforming Medical English instruction in Algeria.*

Taken collectively, the research findings confirm all four hypotheses outlined in the general introduction. The alignment between students' perceived needs and the documented lack of institutional and instructional support validates Hypothesis 1. Similarly, the consistent barriers identified by both students and teachers including insufficient teaching time, low English proficiency, and an outdated curriculum reinforce Hypothesis 2. The linguistic comparison between English and French medical terminology in Chapter Three supports Hypothesis 3, highlighting the practicality of a bilingual approach in a Francophone context like Algeria. Finally, the investigation into English-medium instruction in Russian universities illustrates the feasibility of borrowing and adapting international practices, thereby confirming Hypothesis 4.

## General conclusion

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While the research achieved its aims, it is not without limitations. First, the study was restricted to a single university (Tlemcen University), which may not fully represent the diversity of Algeria's medical education system. Second, the sample size although adequate for qualitative exploration remains limited, especially with only 12 teacher interviews. Third, the lack of longitudinal data means the research captures perceptions at a single point in time, without assessing the long-term effects of EMP integration. Additionally, resource constraints and institutional access limited the scope of curriculum analysis across other Algerian faculties. These limitations, while expected in a study of this scale, open avenues for future research to build upon and extend the current findings.

For the researcher, this study has proven to be a deeply insightful and transformative experience. Beyond its academic value, the process has allowed for first-hand engagement with both learners and educators in the field of medical education, revealing the real-world impact of language policy on academic success and professional mobility. Conducting this research has reinforced the importance of applied linguistics as a tool for solving practical educational problems. It also highlighted the gap between theoretical policy and classroom reality, encouraging the researcher to think critically, empathetically, and creatively. The outcomes of this study have not only contributed to the academic debate on ESP in Algeria, but have also empowered the researcher with a clearer understanding of how linguistics can influence curriculum design, student outcomes, and the broader educational system.

In conclusion, this study confirms that both students and teachers are aware of the necessity of Medical English in today's medical landscape, but that systemic issues still prevent effective implementation. The research proposes a combination of bilingual teaching strategies, international benchmarking, vocabulary-based activities, and curriculum reform as viable paths forward. These

## General conclusion

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findings contribute to the growing literature on ESP in North Africa and offer practical guidance for Algerian universities aiming to close the linguistic gap in medical education.

this conclusion incorporates direct references to key scholars in the fields of English for Specific Purposes (ESP) and applied linguistics. Authors such as Dudley-Evans & St John (1998), Basturkmen (2010), Cook (2001), Hyland (2006), and Hutchinson & Waters (1987) are cited to support the study's interpretations and validate its findings through established academic discourse. Their contributions help to frame the local findings within a global scholarly context and reinforce the theoretical underpinnings of the research.

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**Appendix A : Students' Questionnaire (English Version)**

**Title:** *Students' Attitudes and Perspectives Toward the Use of Medical English at Tlemcen University*

**Objective:**

This questionnaire aims to gather insights from medical students about their experiences, needs, and opinions regarding the inclusion of Medical English in their academic curriculum.

**Instructions:**

Please read each question carefully and answer honestly. Your responses are anonymous and will be used only for academic research purposes.

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**Section One: General Information**

1. Gender:  
 Male       Female
  2. Level of study:  
 1st Year    2nd Year    3rd Year    4th Year    5th Year    6th Year
  3. How long have you been learning English?  
 Less than 3 years    3–5 years    More than 5 years
- 

**Section Two: Perceptions and Experience with English**

4. How would you rate your current level of English?  
 Beginner    Intermediate    Advanced
5. Do you find Medical English useful for your studies or future career?  
 Yes       No       Not sure
6. Have you ever studied any medical content in English (books, articles, lectures, videos)?  
 Yes    No

## Summery

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7. If yes, what type of content? (Check all that apply)  
 Articles    Videos    Textbooks    Lectures    Online courses
8. What do you find most difficult about using English in medicine?  
 Vocabulary    Speaking    Writing    Reading    Listening
- 

### Section Three: Attitudes and Suggestions

9. Would you support adding Medical English as an official course in your program?  
 Yes    No    Maybe
10. In your opinion, when should Medical English be introduced?  
 1st year    2nd year    Later in the program
11. How should Medical English be taught?  
 As a separate course  
 Integrated into other subjects  
 Through workshops or practical sessions
12. What activities would help you improve your Medical English?  
 Role plays    Case studies    Quizzes    Reading exercises    Oral presentations
13. Do you have any additional suggestions or comments?
- 
- 
-

## **Appendix B : Questionnaire des Étudiants (Version Française)**

**Titre :** *Opinions et perspectives des étudiants sur l'introduction de l'anglais médical à l'Université de Tlemcen*

### **Objectif :**

Ce questionnaire vise à recueillir les avis des étudiants en médecine concernant leur expérience, leurs besoins, et leurs suggestions sur l'utilisation de l'anglais médical dans leur programme universitaire.

### **Instructions :**

Veillez lire attentivement chaque question et répondre honnêtement. Vos réponses sont anonymes et utilisées uniquement à des fins de recherche académique.

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### **Première Partie : Informations Générales**

1. Sexe :

Homme       Femme

2. Niveau d'études :

1ère année    2e année    3e année    4e année    5e année  
 6e année

3. Depuis combien d'années étudiez-vous l'anglais ?

Moins de 3 ans    Entre 3 et 5 ans    Plus de 5 ans

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### **Deuxième Partie : Perceptions et Expérience**

4. Comment évalueriez-vous votre niveau actuel en anglais ?

Débutant    Intermédiaire    Avancé

5. Pensez-vous que l'anglais médical est utile pour vos études ou votre carrière future ?

Oui       Non       Pas sûr

6. Avez-vous déjà étudié du contenu médical en anglais (livres, articles, vidéos, etc.) ?

Oui    Non

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7. Si oui, quel type de contenu ? (Cochez tout ce qui s'applique)
- Articles    Vidéos    Livres    Cours    Conférences en ligne
8. Qu'est-ce que vous trouvez le plus difficile dans l'utilisation de l'anglais en médecine ?
- Vocabulaire    Expression orale    Rédaction    Lecture    Compréhension orale
- 

### Troisième Partie : Attitudes et Suggestions

9. Soutiendriez-vous l'intégration d'un cours officiel d'anglais médical dans votre programme ?
- Oui    Non    Peut-être
10. Selon vous, à quel moment devrait-on introduire l'anglais médical ?
- 1ère année    2e année    Plus tard dans le programme
11. Comment préférez-vous que l'anglais médical soit enseigné ?
- En tant que cours séparé
- Intégré dans d'autres matières
- À travers des ateliers ou des séances pratiques
12. Quelles activités vous aideraient à améliorer votre anglais médical ?
- Jeux de rôles    Études de cas    Quiz    Exercices de lecture
- Présentations orales
13. Avez-vous d'autres suggestions ou commentaires ?
- 
- 
-

### **Appendix C: Teachers' Interview Guide (English Version)**

**Title:** *Interview Questions for Teachers on the Use of Medical English in Algerian Medical Education*

#### **Objective:**

This interview aims to collect the opinions, experiences, and suggestions of English language instructors at Tlemcen University regarding the teaching of English for Medical Purposes (EMP) and the feasibility of integrating Medical English into the curriculum.

#### **Instructions to Interviewees:**

The following questions are designed to guide a semi-structured interview. Responses will remain anonymous and will be used solely for academic research purposes.

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#### **Interview Questions :**

1. How long have you been teaching English, and specifically in the medical field?
2. Have you received any formal training in English for Specific Purposes (ESP) or English for Medical Purposes (EMP)?
3. What is your understanding of Medical English, and how would you define it in your own terms?
4. Do you believe Medical English is necessary for Algerian medical students? Why or why not ?
5. In your opinion, should Medical English be taught as a separate module or integrated into other medical subjects?
6. What methods or materials do you find most effective in teaching Medical English?
7. Do you encounter any challenges while teaching Medical English or general English to medical students? If so, what are they ?
8. Are students generally motivated to learn Medical English? What factors influence their motivation?
9. What improvements would you suggest for better implementation of Medical English at Tlemcen University?

10. Do you think a bilingual approach (English–French) could help students understand and acquire Medical English more easily?

**Appendix D: Guide d'Entretien pour les Enseignants (Version Française)**

**Titre :** *Questions d'entretien pour les enseignants sur l'introduction de l'anglais médical dans l'enseignement supérieur algérien*

**Objectif :**

Cet entretien vise à recueillir les opinions, les expériences et les suggestions des enseignants d'anglais à la Faculté de Médecine de l'Université de Tlemcen concernant l'enseignement de l'anglais médical et les possibilités de son intégration dans le programme.

**Instructions pour les participants :**

Les questions suivantes servent de guide pour un entretien semi-structuré. Les réponses resteront anonymes et seront utilisées exclusivement à des fins de recherche académique.

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**Questions d'entretien :**

1. Depuis combien de temps enseignez-vous l'anglais, et avez-vous une expérience dans le domaine médical ?
2. Avez-vous reçu une formation spécifique en anglais de spécialité (ESP) ou en anglais médical (EMP) ?
3. Quelle est votre compréhension de l'anglais médical, et comment le définiriez-vous ?
4. Pensez-vous que l'anglais médical est nécessaire pour les étudiants en médecine algériens ? Pourquoi ?
5. Selon vous, l'anglais médical doit-il être enseigné comme module indépendant ou intégré dans d'autres matières médicales ?
6. Quelles méthodes ou ressources considérez-vous comme les plus efficaces pour enseigner l'anglais médical ?
7. Rencontrez-vous des difficultés particulières dans l'enseignement de l'anglais médical ou général aux étudiants en médecine ? Si oui, lesquelles ?
8. Les étudiants sont-ils généralement motivés à apprendre l'anglais médical ? Quels sont les facteurs qui influencent leur motivation ?
9. Quelles améliorations proposeriez-vous pour mieux intégrer l'anglais médical à l'Université de Tlemcen ?

10. Pensez-vous qu'une approche bilingue (anglais-français) pourrait faciliter l'apprentissage de l'anglais médical ?

**Appendix E: Comparative Medical Terminology Table (English–French)**

**Title:** *Examples of Similar and Different Medical Terms in English and French*

**Objective:**

This appendix illustrates the lexical similarities and differences between English and French medical terms. It highlights how many medical words share Latin or Greek roots, making them mutually intelligible for bilingual learners. This table supports the pedagogical argument made in Section 3.4.2 that a bilingual approach can ease the learning of Medical English in French-speaking contexts like Algeria.

**Table E.1 – Common Medical Terms in English and French**

<b>English Term</b>	<b>French Equivalent</b>	<b>Similarity</b>	<b>Notes</b>
<b>Cardiovascular system</b>	Système cardiovasculaire	Very similar	Same root; minor spelling difference
<b>Heart</b>	Cœur	Different	Requires memorization
<b>Blood vessels</b>	Vaisseaux sanguins	Partially similar	'Vascular' is the root shared in English
<b>Brain</b>	Cerveau	Different	No direct similarity
<b>Nervous system</b>	Système nerveux	Very similar	Shared Latin root 'nerv-'
<b>Muscles</b>	Muscles	Identical	Exact match
<b>Bones</b>	Os	Different	Needs to be learned separately
<b>Oxygen</b>	Oxygène	Very similar	Minor phonetic difference
<b>Hormones</b>	Hormones	Identical	Same spelling
<b>Infection</b>	Infection	Identical	Same word in both languages

## Summery

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<b>Symptoms</b>	Symptômes	Very similar	Slight variation in suffix
<b>Diagnosis</b>	Diagnostic	Related form	English is noun; French often adjective

This bilingual terminology table supports the argument that French-speaking medical students can leverage their background to more easily acquire Medical English vocabulary.