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THESIS

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in English Language and Education

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**Impact of Teachers' Discursive Practices on English for
Medical Purposes Learning Comprehension:
Case of 2nd Year Pharmacy Students at Sétif 1 University**

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DECLARATION OF ORIGINALITY

I, Rania BELHOUL, hereby declare that this doctoral thesis is my personal work that has not been submitted for any other academic degree or professional qualifications before. I further affirm that this thesis contains no material already published or written by another person. Therefore, I attest that my work is free from plagiarism except where due references are explicitly stated.

Signed: Mrs Rania BELHOUL

Date: 12/11/2024

Belhoul.

DEDICATION

In loving memory of Prof. Mohamed Benrabah.

&

To my parents.

To my husband.

To my kids, Iyad and Dina.

And of course, to my soul sister, Nadjet.

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Last but not least, I would like to express my deepest and most heartfelt gratitude to my husband for being a pillar of strength and courage throughout this journey. His unwavering support during times of hardship, along with his devoted care for our children were instrumental in bringing this work to completion. Thank you, my soulmate, for your tireless support and extraordinary kindness. Your steady presence and encouragement have illuminated every step of this path. Holding my hand through each stage of this journey, we have achieved this milestone together.

ABSTRACT

In Algeria's educational context, where French remains influential and English is steadily rising in academic circles, code-switching emerges as a practical strategy in teaching and learning English for Medical Purposes (EMP). The nature of the content and the status of French in the medical field are the essential factors behind the use of this phenomenon in the classroom. Accordingly, this research investigates English/French code-switching as a discursive practice in the EMP course. Focusing on six instructors and 162 second-year pharmacy students from the university of Sétif 1, the study explores their attitudes toward code-switching, examines its pedagogical and non-pedagogical functions, and addresses its impact on learners' vocabulary comprehension and the acquisition of medical terminology. A mixed-methods approach was employed, combining classroom observation, questionnaires, semi-structured interview, focus group discussion, and discourse analysis of 10 recorded sessions. The study reveals how instructors alternate between English and French to facilitate understanding, clarify complex medical content, enhance vocabulary comprehension and manage classroom interactions. It also shows how students resort to code-switching to overcome linguistic challenges and engage actively in the learning process. The findings indicate that code-switching functions as an effective pedagogical tool to enhance comprehension, as well as a non-pedagogical strategy to foster social interaction and students' engagement within the course. Results, further, unveil positive attitudes towards the integration of code-switching in the EMP course, supporting both teaching and learning processes. Eventually, the research offers insights into the strategic use of code-switching through addressing its benefits and limitations, while suggesting recommendations for more effective EMP teaching practices in multilingual classrooms.

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LIST OF ACRONYMS

AA: Algerian Arabic
CBI: Content Based Instruction
CLT: Communicative Language Teaching
CS: Code-Switching
EFL: English as a Foreign Language
EGP: English for General Purposes
EMP: English for Medical Purposes
ESP: English for Specific Purposes
FGD: Focus Group Discussion
FL: Foreign Language
GE: General English
L1: First Language
L2: Second Language
MI: Medium of Instruction
MSA: Modern Standard Arabic
PBL : Problem-Based Learning
TBLT : Task-Based Language Teaching
TD: Travaux Dirigés (directed studies or tutorials)

GENERAL INTRODUCTION

GENERAL INTRODUCTION

As a multilingual society, Algeria officially recognizes Modern Standard Arabic (MSA) and Tamazight (Berber) as its national languages. However, the linguistic landscape extends beyond these, encompassing French and, increasingly, English alongside the diverse local spoken dialects. This multilingualism is deeply rooted in the country's history, educational system, and social fabric, influencing various domains, notably, medical education.

French holds a significant position in Algeria. As a heritage from the French colonization, which lasted from 1830 to 1962, and even after achieving independence, Algeria retained French as an essential language in various domains, notably, in administration and education. This language is widely used in administrative documents, business dealings, and is the primary medium of instruction (MI) for sciences and technical fields in higher education. Many university courses, especially in medicine, engineering, and natural sciences, are predominantly taught in French. Though politically speaking is a foreign language, the latter establishes its status as a de facto second language essential for professional advancement, since it facilitates the access to francophone knowledge and resources.

Medical education in Algeria has been dominated by the French language in terms of both, instruction and pedagogical materials. However, the globalization of the medical field and the status of English as the international lingua franca in science and medicine have become a *fait accompli*. Recognizing the critical role of English in accessing the latest research, participating in international conferences, collaborating and sharing with the global medical community, have urged the medical institution, based on a political will and a government initiative, to integrate an English for medical purposes (EMP) course. the latter is set to fulfill a number of objectives. At the level of medical faculty, these courses aim to equip medical learners and future medical professionals with English language skills, to particularly understand and communicate medical literature and specialized-content, and, on a larger extent, to contribute significantly and to benefit largely from the international medical community. Therefore, the implementation of EMP in Algerian medical settings, attempts to bridge the gap between local education and global standards, via facilitating research, collaboration and maintaining an ongoing education.

The Algerian multilingual environment has made the integration and the teaching of EMP, in medical fields, even more challenging. The coexistence of three different languages (Arabic, French and English) alongside language varieties (Algerian Arabic) has given rise to

code-switching phenomena. The latter, while already known as a common sociolinguistic feature occurring between the mother tongue (or the first language) and the foreign language, and highlighting a shift back and forth in one's spoken discourse, signals a more complex switching between two foreign languages (English and French) in the EMP course. As a matter of fact, some teachers have been noticed to resort to this strategy in teaching, while others remain loyal to the monolingual approach. Likewise, a great deal of students find refuge in code-switching when faced with a complex medical content or when they fail to achieve communication or fulfill certain pedagogical tasks inside the classroom.

In the context of EMP classrooms, students often struggle to comprehend and retain the complex medical vocabulary in English due to their limited proficiency in both general and specialized English. This is particularly challenging for learners in countries like Algeria, where English is not spoken outside the classroom boundaries. However, students, in the same context, may have stronger skills in French, as it has traditionally been used as a second language and is already integrated into the medical education system. While learners are dually challenged by the complex content in medical field and the medium of instruction in medical studies, introducing an EMP course in a monolingual approach (based on English) may lead to difficulties in comprehending the content, in understanding and retaining medical concepts, in participating in discussions as well as in sharing their ideas and interacting with others. As a result, the monolingual approach of instruction may create a passive and an exclusive learning environment for medical learners.

Teachers also face challenges in bridging the gap between learners' existing language skills and the demands of EMP courses. They often observe that students are unable to effectively communicate medical concepts, to convey meaning and to maintain the flow of communication, solely in English. Failing in these pedagogical and communicative tasks may hinder their learning progress and may affect their motivation and will to learn EMP. Accordingly, these challenges suggest that incorporating codeswitching between English and French -languages that students may be more comfortable with- could potentially facilitate comprehension, enhance vocabulary acquisition, and create a more supportive learning environment.

This situation highlights the need to investigate whether the strategic use of codeswitching between English and French could mitigate these learning difficulties and serve as a useful pedagogical tool in EMP teaching. Such an investigation aims to determine if this approach could help learners better grasp medical concepts, improve their learning skills, and

promotes their participation and interest which ultimately lead to a better learning and a more effective teaching process.

This study explores the use of English-French codeswitching as a discursive practice in the teaching and learning of English for Medical Purposes (EMP) in Algeria. In an educational medical context characterized by the intersection of multiple languages, codeswitching between English and French offers a unique perspective on language use in EMP instruction. Both languages are foreign to the participants, yet their interaction significantly shapes the classroom dynamics.

The research aims to understand how codeswitching is employed by both instructors and learners, and how it influences the teaching and learning processes. Accordingly, a case study involving instructors and pharmacy students from the university of Sétif 1, aims at examining how the choice of instructional language influences learning efficacy, skills' development and learning habits. It also investigates the patterns, functions and implications of code-switching between English and French within the mentioned field. A significantly important part of the inquiry intends to provide a thorough analysis about the attitudes of both teachers and learners towards the use and integration of this strategy in EMP course. Therefore, by exploring these dynamics, the study attempts to uncover the pedagogical and non-pedagogical functions, the attitudes as well as the impact of English/French code-switching on the vocabulary comprehension and the learning of medical terminology. All of which will contribute to effective EMP education in a multilingual setting.

Understanding these aspects could offer valuable insights for enhancing EMP teaching strategies by tackling the practical challenges encountered by both instructors and students. On a broader extent, this investigation is significantly important for several reasons. First, it can inform curriculum development that accommodates the linguistic realities of Algerian students, enhancing their competency in English without disregarding the existing influence of French. Second, it sheds light on how code-switching can be both a resource and a hurdle in medical communication and education. Ultimately, the findings could contribute to more effective language policies and teaching strategies that may better prepare Algerian medical students for academic and professional achievements.

Based on what have been stated above, and in order to provide answers to the above-raised problematic issue, five research questions have been developed and outlined as follows:

1. Does the integration of English/French code-switching, as a discursive practice in EMP course, affect positively the teaching and learning process of English?
2. What attitudes do teachers have vis-à-vis the use of English/French code-switching in the EMP course?
3. What attitudes do students have vis-à-vis the use of English/French code-switching in the EMP course?
4. What are the pedagogical and non-pedagogical functions of English/French (and English/French/Arabic) code-switching in the EMP classroom?
5. What impact does English/French code-switching have on learners' vocabulary comprehension and the acquisition of medical terminology?

Accordingly, five hypotheses, in addition to the null hypothesis, are suggested for this investigation:

1. Learners study the medical field via French as medium of instruction (MI) and since the exposure to French departed from primary school, and students who integrated the faculty of medicine are aware of the French status and its importance in medical studies, in addition to its casual and current use alongside Algerian Arabic as a means of communication inside and outside the faculty. Students may possibly (but not necessarily) have developed proficiency skills in French, therefore, switching between English and French in English for Medical Purposes (EMP) course does not pose any cognitive burden or overwhelming climate for content and language learning. On the other hand, integrating English/French code-switching as a discursive practice in EMP courses positively impacts the teaching and learning process by enhancing the students' comprehension, encouraging their participation, and alleviating the students' anxiety manifested due to their language deficiency, weak skills and inability to use English. This approach supports the understanding of complex medical concepts by offering equivalents or explanations in students' more familiar languages (French), fostering an inclusive and supportive learning environment.
2. Teachers maintain a favorable perspective on employing English/French code-switching within EMP classrooms, recognizing its role as an efficient discursive practice and a valuable teaching strategy. They perceive this practice as a bridge that

overcomes language barriers, facilitating clearer comprehension of intricate concepts and nurturing stronger connections with students. English/French code-switching is valued for its adaptability, allowing teachers enabling teachers to address the diverse linguistic needs of their students, and thereby enhancing their learning outcomes and promoting their engagement. This approach proves particularly beneficial in specialized and challenging fields, such as Pharmacy, where understanding complex terminology and ideas is crucial. By switching between English and French, instructors can make difficult subject matter more accessible, ultimately creating a more inclusive and supportive learning environment that aligns with students' varying levels of language proficiency.

3. Students generally have positive attitudes towards the use of English and French code-switching in EMP classrooms. They view it as a helpful strategy that makes understanding medical concepts easier by reducing the mental strain that can come from learning complex material. By switching between English and French, students find it simpler to comprehend challenging medical terms, specialized vocabulary and ideas. This approach not only improves their understanding but also boosts their confidence, making them feel more encouraged and engaged in learning both the English language and the medical content. As a result, their attitude toward studying in such an environment becomes more positive and motivated.
4. In EMP classrooms, the practice of switching between English and French (or sometimes English, French, and Arabic) plays important roles in teaching and learning. This code-switching conveys several functions, such as making difficult medical terms easier to understand, offering explanations or definitions in languages that students are more comfortable with, and giving instructions to make sure that everyone follows what is being taught. Beyond these educational purposes, code-switching is also used for non-pedagogical reasons. It participates in maintaining order in the classroom, fosters a sense of community, and creates a comfortable and friendly environment. As a result, code-switching is viewed as a flexible tool that not only aids learning but also fosters positive interactions and contributes to a supportive classroom atmosphere.
5. Switching between English and French in the EMP classroom has a positive effect on learners' vocabulary comprehension and the learning of medical terminology. By using

explanations in familiar language like French, students find it easier to understand complex terms, as this reduces the mental effort required to grasp new information. Code-switching acts as a helpful bridge that links unfamiliar English medical words with what students already know in French or Arabic. This connection boosts their ability to remember and recall terms later. Moreover, presenting vocabulary within a meaningful context through code-switching is particularly helpful when dealing with difficult and specialized medical terminology. This method supports comprehension, of terms highlighted by its complex or difficult meaning, especially when presented only in English.

As far as the organization of this study is concerned, the overall schema encompasses four chapters; starting by an introductory part, then presenting the relevant literature and the theoretical framework, through chapter one and chapter two, which traces the line of this inquiry. Then, the methodological chapter which revolves around the research design, the approach adopted, the instruments employed and the population which will be put under investigation. After that, a detailed analysis and interpretation of the data collected, will be presented in chapter four. To sum up the work, a general conclusion will provide a summary for the data, a discussion of the hypotheses raised at the start of the study, in addition to a set of recommendations and implications. Last but not least, a number of suggestions about further extended research within this respect will be proposed. The following parts will provide more details about each chapter's content and structure.

The general introduction of this research provides a basic outline of the work, including an overview of the multilingual context in Algeria, the importance of French and English in medical education and the challenges of teaching EMP through a monolingual approach leading to the emerge of code-switching practices within this course. accordingly, a brief discussion about the reasons for doing the research, and why it is important takes place in the introductory section. Moreover, while the latter pinpoints the problematic issue raised in this inquiry, it also sets out the main research questions and hypotheses related to it.

Chapter one, the first theoretical part, presents the relevant literature and the theoretical framework about English for medical purposes (EMP). This part presents a general overview of EMP, the linguistic demands of this course, the teaching methodologies and approaches in EMP, the language skills being focused on, in addition to the teaching and learning challenges in EMP education.

Chapter two, on the other hand, represents the second theoretical section that concerns code-switching phenomenon. This part delves into the definition and types of code-switching, the different theoretical frameworks that approached this strategy, in addition to its functions. This chapter also highlights the importance of going through code-switching in educational settings, by examining its role in teaching and learning, instructors' and learners' code-switching practices, in addition to the perceptions and attitudes towards its integration in education. All of which, will pave the way towards a brief, but equally important, review of code-switching in EMP courses, with a specific focus on its impact on EMP learning, and the attitudes towards its usefulness in the teaching and learning process of this particular course.

Chapter three, first, outlines the research context within which this study is conducted, and second, presents the methodological design adopted for this inquiry. Accordingly, this chapter highlights the methodological approach, the sample population, the research instruments and the procedures to follow in data analysis. There are two essential purposes to investigate in this study. From one hand, exploring and examining the teachers and learners' attitudes towards the use of code-switching in EMP education, from the other hand, investigating the different functions of code-switching in the classroom. Consequently, a case study is found suitable as a research design. The latter deals with a sample population from the university of Sétif 1, encompassing, six EMP teachers from the different departments of the faculty of medicine, in addition to 162 second year pharmacy students. As far as the research approach is concerned, the researcher focuses on a mixed-methods approach in which she makes use of classroom observation, questionnaires, semi-structured interview and a focus group discussion. These instruments, approached quantitatively and qualitatively, will reveal significant data concerning the attitudes towards code-switching. As a last part of this chapter, a thorough discourse analysis of ten sessions are set to discover the different functions of code-switching within the EMP course. As a result, chapter three presents and discusses the recording and transcription processes adopted in this study.

Chapter four is the cornerstone of this investigation that concerns the data analysis, discussion and interpretation of the results generated by a number of instruments employed in this research. Accordingly, this part presents the quantitative and qualitative data deduced by means of different methods and instruments; such as SPSS, Turboscribe and Excel, or through the manual calculations done by the researcher. Interpretation of results will draw upon the

research questions and hypotheses, as an attempt to answer these inquiries through validation or rejection.

Eventually, a general conclusion will be provided to sum up the results obtained from the fourth chapter. In this final part, a number of implications will be proposed, as well as issues and possible shortcomings will be discussed. Recommendations for code-switching use and implementation, within the EMP classroom, will be highlighted. Last but not least, suggestions for further investigations and extended research in the same line of inquiry will be the last significant part of this research.

CHAPTER ONE
LITERRATURE REVIEW
ON ENGLISH FOR MEDICAL PURPOSES (EMP)

CHAPTER ONE

LITERRATURE REVIEW

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1.1 Introduction

Chapter one is the first theoretical part that regards reviewing a large part of relevant literature to set a clear and a detailed overview concerning the field of English for Medical Purposes (EMP). Accordingly, this chapter explores the theoretical foundations of EMP through a detailed examination of key research that defines its scope, role, and impact in medical education and practice. A number of sections are established to review how EMP instruction is structured to support the diverse linguistic needs of medical students and professionals, with a particular focus on its broader implications for effective medical instruction. Through an analysis of recent studies, this chapter aims to underscore the significance of EMP as an essential component of medical education and to identify best practices and challenges in its teaching methodologies. As far as Algerian medical context is concerned, a brief overview of the situation of EMP in medical universities as well as a concise discussion about the challenges of EMP course instruction within the Algerian EFL context is also tackled in this chapter.

1.2 General Overview of EMP

The globalization of medical education and healthcare practices has established English as a lingua franca among global medical community. This trend has pinpointed an urgent need for the rise of English for Medical Purposes (EMP). The latter is a sub-specialty of English for Specific Purposes (ESP) that addresses the linguistic needs of medical students, medical professionals and even subject-specialists and researchers within the mentioned field. Unlike the teaching of general English (GE), EMP instruction is designed to develop specific language skills that different medical learners are in need of to effectively communicate, read, and write in academic and professional medical contexts. EMP courses emphasize a number of language skills that are particularly and significantly import for learners, for instance; learning and mastering medical terminology, understanding academic and clinical medical discourse, and fostering the communication skills between medical students or between other categories in the professional setting, such as doctors and patients, dentists in their cabinets, or pharmacists in their drugstores (Salager-Meyer, 2014). Whether for academic or professional purposes, EMP is needed in diverse backgrounds.

1.2.1 Definition and Scope of EMP

English for Medical Purposes (EMP) is a specialized sub-branch of English for Specific Purposes (ESP). This specialty emerges out of an urgent need to equip members of the medical fields; whether medical students, healthcare professionals or subject specialists with the language skills necessary for effective communication in medical settings. EMP involves the teaching and learning of English for particularly specific aims, among which the acquisition of communication skills is the major established purpose that specific medical community, such as doctors, nurses, dentists, pharmacists should achieve. Mahmood, Y. (2018) defines EMP as a type of language training set to help medical professionals acquire both the technical vocabulary and the communicative skills required for their specific roles. The scope of EMP extends beyond the solely aim to acquire specialized vocabulary, to encompass a larger use of specialized language in various medical contexts, such as patient consultations, case presentations, writing medical reports, presenting within medical events and/or collaborating with similarly professional fellows and colleagues.

Basturkmen (2010) notes that EMP also addresses the need for language proficiency in specific genres of medical discourse, which includes the ability to read and write research articles, prepare medical presentations, and effectively communicate with patients and peers. This specialty, therefore, aims to provide healthcare workers with the tools necessary to deliver high-quality patient care, engage in research, and participate in international conferences. Hutchinson and Waters (1987) denote that EMP is a dynamic and evolving field, moulded by the specific needs of its medical learners as well as the demands of the professional healthcare environment.

Accordingly, the scope of English for Medical Purposes (EMP) spans across written, spoken, and clinical communication. This field holds a specific intention to build the language proficiency in English. The latter addresses different both; medical students and healthcare professionals. Subsequently, EMP serves not only as a language of instruction within medical schools but also as a vital tool for effective communication in professional settings, such as hospital, clinics, cabinets, drugstores, etc. This specialty emerges for two significantly important objectives; first to enhance the language skills in English, and second, to promote a better collaboration and understanding among diverse healthcare teams.; these two criteria are essential for educational growth, professional advancement as well as improved patient care outcomes (Yan, 2007).

1.2.2 Role of English in Medical Education and Practice

The introductory part of this chapter highlights the importance of English as a lingua franca, notably in medical fields. The internationalized system has established this language as a meeting ground, assigning English as a de facto means of communication between different healthcare professionals of diverse linguistic backgrounds from all over the world. According to Harding (2014), the acknowledged status of English within the medical community led to assigning this language as the primary means of communication, especially in international contexts where healthcare professionals need to bridge language gaps to communicate effectively. Likewise, in medical education, proficiency in English is highly an attempted standard that would enable the medical learners to access high-quality medical literature, to participate in international medical examinations, to attend international conferences and to indulge in medical research and research writing (ibid).

On the other hand, Hyland (2006), when addressing the critical need for English proficiency among medical students, stated that emphasizing the English language competence is significantly important as much of the essential medical literature and medical resources are published in English. While this step could be realized with populations where English is a second language, it creates a tremendous challenge for non-native speakers. Challenges within the latter regard the must to develop language skills not only to comprehend their studies and field of research, but also to communicate effectively in professional settings. Dudley-Evans and St. John (1998) further highlight that healthcare professionals are in need of strong communication skills in English for Medical Purposes (EMP), to accurately exchange with the fellows of the domain, to convey important information to patients and their families, or to assign precise procedures to other medical staff like nurses and health assistants. Henceforth, effective communication does not revolve around sharing simple information, but entails that medical professionals provide concrete and comprehended information ensuring that patients fully understand their conditions, diagnoses and the offered treatment options. All of which requires an empathetic clear technique that guarantees the practitioner-patient trustworthy and comprehensible contact.

the role of English in medical professional settings were further examined by Sarangi and Roberts (1999). The former and the latter investigated the critical role of English in patient interactions and highlighted the crucial need of apprehending and acquiring the necessary skills and techniques to facilitate complex medical concepts or ideas for patients, through a simple

and plain unsophisticated language. The mastery of such skills is significantly important for healthcare workers in contexts that denote multilingual and multicultural patient's presence. Accordingly, these skills aim to equip the medical professionals with the necessary background to prevent serious misunderstanding or confusion that may impact the patient's outcomes. Harding (2014) further elaborates that particular sensitivity that emerges out of diverse cultural backgrounds is equally vital in English for Medical Purposes (EMP), since the required efficient communication in healthcare is strictly related to a full grasp of cultural norms and expectations within the mentioned context, as the focus should not be only on language fluency.

Accordingly, English emerges as a significant language in both medical education and professional-related practice. In the former, English is highlighted through its crucial role in understanding, using and contributing to the global database of medical knowledge. Within the academic field, the language proficiency has been witnessed to positively impact the skills and capacities of medical learners and thus reflecting a highly enhanced confidence in dealing with and passing academic and professional tasks (Djokic et al., 2021). On the other hand, EMP establishes a well-designed approach to learn how to efficiently employ medical terminology and how to participate in consultations as well as collaborating with colleagues around the world (Johns & Dudley-Evans, 1991).

1.3 Pedagogical Approaches in EMP Instruction

Teaching English for medical purposes is a very challenging task since it requires high skills and professional experience. the increased need for this special course unveils a necessity to establish multiple adequate pedagogical approaches, that are typically conversant with the diverse needs and multiple medical contexts. Accordingly, the major aim of this literature review is to explore the use different approaches, mainly the Content-Based Instruction (CBI), the Task-Based Language Teaching (TBLT) and the Problem-Based Learning (PBL) in EMP courses. All three approaches were subjects of an extensive investigation by different scholars. Henceforth, they are regarded as highly effective, especially in contexts where mastery of subject-specific language, like medical communication, is crucial.

1.3.1 Content-Based Instruction (CBI)

Content-Based Instruction (CBI) is a pedagogical approach in EMP. It consists of delivering a course of language learning with a great focus on the subject matter, from the medical field, as its content. the emerge of this approach goes two centuries back, where the

idea of teaching and learning a language through its pure linguistic features have reached its end, while the new focus on language instruction should be in concordance with the communicative and the practical functions within particular contexts. The new trend in language teaching influenced the fields of ESP and subsequently EMP, which led to the establishment and recognition of CBI as a critical approach in teaching English for medical purposes.

The first attempts towards establishing a content-based instruction are accredited to the work of three recognizable scholars, namely, Brinton, Snow, and Wesche (1989). They set the foundational steps of integrating CBI within language instruction. They argued that the latter works better through CBI, since this approach offers a more meaningful and engaging context for language learning. Significantly, learning via CBI consists of combining the target language with the content of the subject-matter such as dealing with judicial content in Law studies or scientific content in science studies. Consequently, this method aims to achieve two objectives at once; the first is to enable learners build significantly strong language skills, meanwhile, the second objective is to make the academic or the professional knowledge of the subject-specialty accessible and acquired. Therefore, CBI can enhance both; the linguistic and the cognitive developments of learners. Accordingly, this approach highlights a positive impact on language learning that is based on specific content, triggered from the subject specialty of students, such as increasing motivation, enhancing comprehension and fostering a better retention, as learners are not learning the language in isolation but in relation to a relevant interesting content (Brinton, Snow, & Wesche, 1989).

Despite the fact that Brinton, Snow & Wesche (1989) exposed this approach earlier, attempts to integrate a CBI model in EMP instruction took nearly two decades. Accordingly, a number of researchers from the 21st century set multiple studies to discuss the utility of this approach in medical fields. For instance, Xiaorui Chen's study revealed that CBI is an effective approach in medical English courses, since it helps learners improve not only general but also professional English skills. The study, subsequently found that CBI effectively supports the development of both foreign language abilities and professional competencies, aligning well with the needs of medical students for further academic study and employment (Chen, 2013). Another significant research on CBI included an experimental trial comparing between CBI and traditional approaches in teaching and learning EMP. Results indicated that CBI approaches were efficient in enhancing learners' English proficiency, their motivation to learn English, as it boosted their independent learning skills. These findings support CBI as an influential

framework in medical English education, and highlight a number of implications for curriculum design that concerns both; the language and the content (Cao, 2015).

In EMP context, CBI consists of incorporating medical texts, real or virtual patient case studies, and other genuine materials from the medical field. Based on a purely medical content, students are exposed to real-life contexts that trigger their attention and interest to learn the language and to focus on and emphasize their medical knowledge. This approach could be powerful in contexts where the language of instruction in medical studies is the same target language being focus on, however it could be challenging for EFL contexts where students are being taught via a different language of instruction, such as Algeria where French is the medium of instruction and English is a foreign language taught through an integrated EMP course. another challenging aspect within CBI, is that it requires professional skills and expertise in both the language and the content which makes it very hard for instructors with poor medical knowledge to teach an EMP course based on this method. This challenging process depicts the EMP course in the Algerian context where no training is handled, and thus most of EMP teachers, notably in academic settings like university, resort to general English teaching, since they fail to integrate specialized medical content. Therefore, most instructors find it an extremely challenging mission to adhere to a content-based instruction in EMP classroom.

1.3.2 Task-Based Language Teaching (TBLT)

The second equally important approach is the Task-Based Language Teaching (TBLT). The latter is a teaching method that focuses on the learner as the center of the instructional process. it consists of emphasizing real-world tasks and activities to facilitate the process of leaning. Accordingly, the major purpose of TBLT is to engage learners in a significant language learning experience where they can learn more than grammatical patterns or drills but vivid experiences enabling them to perform and act actively in the process. while traditional methods focus more on a teacher-centered instruction where students are restricted to the learning of vocabulary and grammar rules, and are mostly passive recipients of information, TBLT emerges as new trend that challenges the previous traditional teaching methods through establishing a new effective engaging and enthusiastic learning climate. The aim of this approach differs widely from the traditional framework which consists of learning the language for purely linguistic intends, however TBLT approaches the language as a means to achieve particular goals.

The definition of “Task” within TBLT framework refers to a set of activities of learning missions designed purposefully to reach a particular outcome. Therefore, students, via a set of activities, are required to achieve both short-term and long-term objectives. The former denotes the instant results that students attain by the end of the task, such as solving a problem or organizing a meeting, however long-term objectives revolve around the language skills and abilities that learners will acquire through this process. Henceforth, the latter imitates real-life situations, via a number of activities and tasks, to encourage learners’ communication skills in simulated context mirroring real-life situations that exceed the classroom boundaries. The primary aspect of this approach is to include classroom activities that should be goal-oriented, with a particular focus on meaningful interaction, and learning skills that can be applicable to real-world contexts (Long, 2015). Therefore, the chief aim of TBLT is to develop the learner’s communicative skills in practical situations, by relating the language learning to the external real-life context.

The rise and development of this approach is accredited back to the raised inquiries about the efficiency of teaching language in isolation depending highly on memory and recall. Challenging theories in communicative competence and communicative language teaching (CLT) (Hymes, 1972) set the basis for TBLT to emerge as a need to focus on and highlight the communicative side of language instead of learning grammar and vocabulary, all of which happens through a set of formulated tasks and activities. A number of researchers and language educators participated significantly in the formalization of This approach in the 1980s, namely; David Nunan and N.S. Prabhu. Prabhu’s Project in India was one of the first comprehensive applications of TBLT, demonstrating how the latter is potentially used to improve language skills through specific tasks and activities (Prabhu, 1987). Over the following decades, TBLT emerges as a significantly popular approach in language teaching throughout the world as it became one of the central approaches in language teaching, particularly for adult education and specialized language courses. Its influence is especially notable in English for Specific Purposes (ESP) and English for Medical Purposes (EMP), as these fields require learners to master communicative tasks relevant to their professional contexts (Willis & Willis, 2007).

EMP context shows a nurturing area for TBLT application and focus. In medical fields, the primary focus is to provide learners with the necessary knowledge and skills to enable an effective and an accurate interaction between different members in a medical setting, for instance; doctor-patient interaction, peers or colleagues exchange, etc. accordingly, the focus on fostering the communication skills becomes critical. Accordingly, a task-based language

teaching emerges as an adequate way of teaching English for medical purposes, since it copes well with the needs of medical professionals, as it provides practical exercises that prepare learners for real-life situations they are likely to encounter when they become professionals in the field (Chan, 2018).

The TBLT approach in EMP instruction consists typically of inserting multiple tasks and activities that draw on common medical interactions, such as medical consultations in hospitals or clinics, diagnosing diseases, prescribing medication and giving instructions. Simulating these situations through different tasks, such as role-play, dialogues and oral interaction and presentation in the classroom, enables learners to develop not only the language skills but also the communicative competence and the confidence needed to deal with the challenging tasks of medical communication in real-life situations. For instance, an EMP course based on TBLT might include role-playing exercises where learners are required to explain health conditions to patients or communicating with other healthcare workers in more sophisticated setting that requires both, high communicative skills and knowledge in the target language. These tasks might enhance the medical vocabulary as well as the learners' ability to convey empathy, alleviate stress, and ensure clarity. These skills, therefore, are indispensable for effective healthcare delivery (Feng, 2016).

Task-Based Language Teaching is a dynamic approach to language learning that focuses on real-world communication. It consists of engaging learners through purposeful tasks to build linguistic and communicative skills. This approach growing out of the communicative language movement of the 1970s, has become a significantly reliable method, particularly in specialized fields like English for Medical Purposes (EMP). In the Algerian medical context, this approach is widely adopted by teachers in different EMP settings. Medicine, pharmacy and dentistry are all fields where the instructor has been witnessed using TBLT through role-plays, dialogue interactions peer and group performances. The purpose is to equip medical students and professionals with the necessary skills to perform and communicate in real situations, however this task is very challenging for Algerian students as their medium of instruction is French while their mother tongue is Arabic. The multilingual criteria make the situation of learning EMP even more challenging and intimidating, since students lack the necessary background and language skills, they feel intimidated to perform such tasks in the classroom.

New approaches in teaching EMP arise out of the merge of content-based and task-based approaches. The former and the latter, when combined, can effectively address learning issues and teaching challenges in EMP context. Hyland (2006), one of the researchers who

adopted and advocated a sort of genre-based approach, where learners encounter specific medical contexts and discourse-related patterns that allow them to understand and communicate within medical settings. Depending on a variety of authentic materials, such as case studies, medical reports, medical prescriptions, patient interviews, is indispensable in creating and imitating real-life scenarios for EMP learners to familiarize them with what they can face in their professional career. Sarangi and Roberts (1999) further argue that activities that are based on simulations of patient-doctor interactions or role plays are effective methods for enhancing the communicative competence of medical students, as these activities foster both linguistic and interpersonal skills.

1.3.3 Problem-Based Learning (PBL)

Another teaching approach that focuses on student as the core element of the process, is known as Problem-Based Learning. This pedagogical approach has been embraced by many educators and has been integrated in many fields, such as medicine, as it is a learner-centered approach. Instead of being the usual passive recipients, learners within this approach are required to engage actively with the process, tasks and assignments of the EMP course. It copes with high tertiary levels; such as university, where the role of the teacher is restricted to facilitating certain pedagogical tasks, whereas a greater focus is put on the learner as the center of the educational process. The primary aim set by this approach is to solve real problems or address issues that are related to the field of study. All of which is done via language and via collaboration. Henceforth, this approach emphasizes a number of skills, notably, critical thinking, problem solving, collaboration and team work as well as the communicative skills of students (Barrows & Tamblyn, 1980). Accordingly, PBL aligns well with the intellectual demands of both medical and language learning.

Unlike the other methods which were used in different fields and later on were adapted in medical education, PBL was an exclusively innovative approach in the field, introduced in one of the universities of Canada in the late 1960's as an alternative to the conventional way of teaching. The latter was based on lecturing, emphasizing the teacher as the center of the approach (Barrows & Tamblyn, 1980). This approach, in due time, has gained significant interest in medical institutions, where the ultimate aim is to adopt and adapt effective ways that enable students to deal with complex medical situations. Therefore, PBL approach has been adopted by many countries and institutions around the world.

The PBL approach has had a prominent role in medical education which encourages its transfer to English for Medical Purposes instruction. By 1990's this method becomes significantly present within the EMP curriculum and program. Medical communication is highlighted by a number of challenges, notably within communication and how to use language as a means of communication and transfer of information within this critical field. This task urged EMP programs to incorporate a PBL approach to deal with these pervasive issues. This transition in EMP was based upon recognizing that effective language skills in medical contexts require a real ability to convey complex medical information with precision in high-stakes scenarios (Lim, 2018).

By the early 2000s PBL became an embedded practice in EMP instruction reflecting an indispensable shift towards communicative and task-based language learning. The rise of globalization and a connected global medical community, particularly where English is not a native language, urged a necessity to have a medical community that is proficient in English. Significantly, PBL approach consists of combining the language and medical skills to help learners better acquire the specialized terminology and the required communicative competences, upon which they develop the necessary background to handle real life interactions with patients or others.

One of the strong points about its incorporation in EMP education is the ability of this approach to foster not only the language proficiency but also to promote medical reasoning which is critical for medical students. Facing the latter with real-world medical problems, PBL encourages them to engage deeply with medical content while communicating in English. Schmidt et al. (2009) found that this method is capable of enhancing learners' ability to retain and apply medical knowledge because it requires them to use language in authentic, meaningful contexts. In EMP classes, PBL mirrored scenarios often involve diagnosing a patient, developing treatment plans, or discussing ethical healthcare issues, all of which provide rich opportunities for language practice (ibid). this approach supports critical thinking and collaborative skills development, which are significantly crucial in the medical field. Accordingly, students, via BPL learning, acquire the necessary skills to analyze symptoms, discuss diverse diagnoses, and propose appropriate solutions, and this process happens simultaneously with the language learning.

Several studies have drawn positive insights on the use of PBL in EMP instruction. While Azer (2009) revealed a significantly positive development in learners' capacity to communicate and transfer effective medical knowledge, Yang (2020), in his study, unveiled

that medical students and through this method, demonstrated higher language proficiency and better recall of medical vocabulary compared to those exposed to traditional teaching approaches. Moreover, empirical research on PBL methods proved its significance in increasing students' engagement, regarding real-world problem-solving as more relevant and stimulating than conventional language exercises (Harazneh et al., 2019). This is particularly important for non-native English-speaking medical students who must navigate complex medical terminology and patient interactions.

Despite the fact that this approach is highly recognized for its benefits in EMP, when related to the Algerian medical context, it becomes significantly challenging for both instructors and students. One of the major constraints of EMP education in Algeria is the time limitations. Since EMP course is not significantly recognized as a major subject, but rather an additional secondary subject within medical education, it is not accorded enough time. Consequently, the application of PBL in Algerian classrooms would be even more challenging with the complex process of this approach and the difficulty of the medical content, preparation of PBL based courses demand highly skilled instructors that would know how to deal with this process without wasting time through solving complex medical problems. Moreover, EFL contexts like Algeria demonstrate weak English skills, while this approach can improve multiple learning skills such as critical thinking and problem-solving, it relies in its essence on communication and exchange between students, however the language, within Algerian EMP classes, might refrain learners from participating as they manifest weak language skills. However, applying PBL, in this setting, could lead to the use of code-switching between English and French as a facilitator to overcome challenging language and medical content tasks.

1.4 Requirement for EMP Teaching

As a specialized branch within English language, the teaching of English for medical purposes (EMP) focuses, in essence, on how to make medical students and professionals in medical fields acquire the necessary language skills that would enable them to indulge in the world of medicine, dentistry or pharmacy while being equipped with the language tools that would promote their learning, teaching as well as professional occupational experience. Therefore, instructors in EMP classes depend largely on the learners' needs, wants and necessities, to design and adapt the content and to focus on what is significantly important as language skills to deliver through this course. the characteristics that exceed the instructor and the phase of designing, selecting the materials and preparing the EMP course are related to

another level, such as designing suitable curriculum for different medical target population, choosing suitable methodologies and approaches as well conducting research and investigating EMP areas to address teaching and learning issues and to propose solutions to promote the process.

1.4.1 Curriculum Design in EMP

Designing effective and operational curriculums that set the educational program and the criteria of the course is a vital step prior to EMP integration in different medical contexts. This step is often ensured by the higher authority of the country, such as the ministry of higher education and research in Algeria, which is responsible for providing a nationalized curriculum to all the faculties of medicine, depending on which, EMP teachers select the course content, the tools and the skills to deal with in the classroom. the major aim of designing and providing curriculum is to ensure that teachers are put on the right path in the process of teaching EMP. This would help them set the foundational steps towards a meaningful and a coherent learning experience, through which learners would meet their needs and develop their skills in concordance with their subject field demands.

1.4.1.1 Definition and Concepts in Curriculum Design

Curriculum design, the upper step prior to implementing a particular course in a given field of education, is defined as the procedure of developing an educational program, that would be adopted, mainly in academic context such as pre-tertiary levels or universities. The purpose behind curriculum design is to organize the content, the teaching strategies, as well as the phase of assessment and evaluation. In the context of EMP, curriculum design focuses on the language learning objectives with a particular reference and focus on medical knowledge. Accordingly, curriculum pinpoints what medical students have to acquire as skills required to effectively communicate and engage in medical settings. The procedure often adapts the Content-Based Instruction (CBI) as a model for EMP instruction, since CBI focuses on teaching the language via the integration of medical content in the course. This strategy, as we have discussed above, is fruitful in two ways; making students acquire the linguistic skills of English, in the meanwhile keeping a familiar content based on which they could enjoy the learning experience and develop future academic and professional skills related to their field of study.

Valuable and effective curriculums that concerns EMP instruction are those which focuses on the best ways to incorporate specialized-medical content into the course. this step is

critical for regarding a curriculum as practical and manageable. However, curriculum is a flexible form of instructional information that could be ameliorated or revised through research implementations in the medical field, or the other way around, curriculum could be designed on the basis of research findings in a given field. For instances studies (e.g., Yu & Seepho, 2015) have shown that EMP courses benefit from teaching approaches like CBI, PBL and TBLT where the central focus of the course revolves around learning the languages skills in relation to different medical themes and mirrored medical tasks from real-life cases. Subsequently, learners could develop their medical writing, they could enhance their vocabulary comprehension as well as learning medical terminology of a specific medical field or a particular context. Accordingly, based on multiple research results, curriculum could develop educational programs that, at least, show the right path for instructors to align the language instruction with the academic and future professional demands of medical learners.

In the Algerian context, multiple curriculums are designed and set by the ministry of higher education and research to equip the medical faculties with the necessary instructional background, based on which Algerian teachers could develop their personal syllabuses and materials to teach EMP. Taking the case study raised in this research, curriculum adopted for second year pharmacy students (see appendixes A and B) requires that the latter should learn and develop; medical terminology with Greek and Latin etymology, phonetic comprehension and writings skills. In the meanwhile, half of the program is dedicated to enhance the general linguistic skills of pharmacy students in grammar and vocabulary. However, this curriculum does not offer the necessary information about the approach or methodology to adapt in the EMP course, it does not require any recommendations or restrictions on the language of instruction or ways of teaching, as it does not provide a detailed program on how to integrate an EMP course depending on medical content.

The drawbacks of the curriculum could be justified that, in Algeria, EMP is a fresh still unexplored area of teaching, where multiple challenges arise due to the fact that no adequate training is offered to instructors, or specialized teachers in the field are available, in addition, no syllabus or coursebooks are implemented in the teaching of English for medical purposes. Therefore, teachers assigned to teach EMP in Algerian universities struggle with the content they should select for the course and the materials they should depend on to better meet their learners' needs. Eventually, language of instruction in EMP is also a focal point which creates controversies and triggers different views and applications. While some teachers find it inevitable to use code-switching between English and French to teach a course based on CBI,

others, who present a rather general course and focuses on the language skills in isolation from the medical content, believe that the monolingual approach is the best to develop those skills. In this respect, the present research tackles the last problem in EMP instruction which revolves around the language of instruction. The researcher, through this investigation attempts to explore the attitudes of both; teachers and students about the use of code-switching as a medium of instruction with a particular focus on its functional roles within the EMP classroom.

1.4.2 Needs Analysis in EMP

The second important step is the needs analysis procedure. The latter is a significantly important step to create English for Medical Purposes and develop (EMP) programs as it shapes the curriculum to fit the specific language needs of medical students. This process looks at the students' objectives, for instance, how they prefer to learn, and the language skills they need to develop like reading, writing, speaking, and listening. As an example, a study of medical students at Karadeniz Technical University showed that without a proper needs analysis, standard English textbooks cannot meet the unique requirements of EMP, especially for students whose native language is not English but rather use it as a second or a foreign language (Kayaoğlu & Akbaş, 2016).

Needs Analysis in the context of English for Medical Purposes (EMP) in Algeria highlights significant challenges, particularly in curriculum design and addressing the specific needs of medical students. A study on teaching English for specific purposes in Algeria reveals that inadequacies in program design, untrained ESP teachers, and lack of student motivation hinder effective EMP instruction. Medical students require English proficiency to engage with scientific research and medical literature, predominantly published in English. For effective EMP programs, collaboration among administrators, medical faculty, and students is essential to develop relevant and practical language skills tailored to medical settings (Djaileb, 2018). Accordingly, and as highlighted above, the current EMP situation in Algeria requires both, extensive research in the field to investigate the different components of the EMP process as well as detailed need analyses to highlight the teaching and learning issues. Subsequently reforms could be made within the curriculum and new policies could be set to design the best course that could meet medical students' needs and requirements within the field of medicine, dentistry and pharmacy.

1.5 Components of EMP Teaching

As far as the key characteristics of English for Medical Purposes instruction are concerned, this theoretical part provides an overview of two major components, namely; specialized-vocabulary and medical terminology, as well as communicative competences required in the medical settings.

1.5.1 Specialized-Vocabulary and Medical Terminology

EMP instruction is crucial for equipping medical students and professionals with the necessary language skills and proficiency to meet academic and professional requirements. At the heart of EMP is the specialized vocabulary and the medical terminology, though differs slightly from one medical setting to another, where the focus follows the subject matter, for instance medical vocabulary in medicine differs from the specialized vocabulary dedicated to pharmacy or dentistry students. Overall speaking, this category that comprises terms related to anatomy, medical specialties, diseases and infections or inflammations, procedural language, and pharmacological terminology. Therefore, this category is not only vast but also essential for learners to develop the necessary required knowledge in English. The teaching of this specialized vocabulary involves a unique set of challenges and methodologies that make it distinct from general English language instruction.

Linguistic barriers in EMP education stem from the specialized vocabulary and complex structures of medical terminology that are mostly needed in medical communication. EMP learners undergo significant difficulties when mastering medical terminology, which differs substantially from general English. According to Milosavljević (2012), vocabulary acquisition is crucial, as medical language is related to context-specific terms from the medical fields, making the learning of vocabulary in isolation form the latter, a very challenging process that can be doomed to failure. EMP students benefit more when terms are taught within relevant contexts, which aids in accurate comprehension and retention. To enhance understanding and retention of specialized-vocabulary and medical terminology, EMP instructors focus on contextual learning rather than teaching terms in isolation. This approach consists of relating vocabulary-based instruction to a specific relevant context or medical situation. This technique enables students to understand the specific meaning of medical terms and grasp how the latter are applied in medical settings. For instance, in pharmacy, the terms “prescription posology and side effects” are only taught through concrete definitions but also introduced in role-plays or

through simulating professional settings. This method, could significantly strengthen the students' comprehension and recall of specialized vocabulary as it provides these terms within imitated real-life situations or scenarios (Milosavljević, 2012).

Though this component is essential in EMP instruction, the acquisition of specialized-vocabulary and medical terminology remains a very challenging task for many EMP students, particularly for non-native speakers or those who have their medical education via another medium of instruction than English, such as Algeria where the medium of instruction is French, and English is the second foreign language. Medical terminology often relies on Latin and Greek roots, and complex word formations can be unfamiliar to students. Recognizing this, EMP educators depend on systematic teaching strategies to help students understand and retain these terms. Techniques such as explicit instruction in pronunciation, understanding word origins, and repetition in various contexts support students in overcoming these difficulties. According to Rong-xia (2011), providing a structured information which combines, relevant explanation of the origin of the medical term with adequate training on the phonetic part might help students better decipher complex terms, and thus building a more accessible mental lexicon of medical vocabulary (Rong-xia, 2011).

In addition to systematic instruction, teachers can also, in EMP courses, incorporate testing and review activities to solidify vocabulary retention. For instance, creating test banks of core medical terminology in addition to the frequently used grammatical structures might help medical students to familiarize themselves with the necessary language patterns essential in professional-related discussions (Doykova, 2019). As the latter highlights, these testing practices strengthen students' understanding of specialized key terms and phrases, through which learners could acquire the necessary background which would prepare them to transition from classroom learning to effective, patient-centered communication (Ibid).

Another factor that could raise significant challenge and could impact the effectiveness of vocabulary acquisition is related potentially to students' learning preferences. EMP courses often accommodate visual or auditory learning styles through vocabulary instruction. This approach allows students to engage with specialize- medical vocabulary in ways that suit their learning styles and intellectual abilities. For instance, students who prefer visual learning may benefit from diagrams and visual aids, while auditory learners may find repeated listening exercises more beneficial. Research by Dao and colleagues (2020) demonstrates that when teaching methods and strategies cope with the learning preferences of students, comprehension and retention becomes significantly better. The findings of this research suggest that instructors

should adapt their teaching process to their students' learning preferences so as to create the best teaching model to help them acquire and utilize complex medical vocabulary (Dao et al., 2020).

In Algerian context, teaching this component remains a challenging endeavour. Medical faculties provide this medical glossary in French, while the latter share many similarities and roots with English _particularly for medical terminology which had Greek or Latin origins_ the task of teaching specialized vocabulary in English is very difficult, as the pronunciation of items is different as well as word endings and some word formations such as prefixes and suffixes that form different medical categories. The fact that Algerian medical learners depend highly on French in their medical studies, makes the learning of specialized vocabulary and medical terminology even harder through an EMP course and particularly through English alone. Accordingly, one of the inquiries in this study sheds light on this issue by attempting to investigate whether code-switching and bilingual instruction could help Algerian learners to better grasp and retain medical terminology.

1.5.2 Communicative Skills in EMP Teaching

English for Medical Purposes (EMP) is designed to meet the specific linguistic and communicative needs of medical students and professionals. Unlike general English, EMP focuses on the specialized vocabulary, discourse, and communication strategies required for success in both academic and occupational settings. Communicative skills in EMP revolve around the ability to read, discuss, and document medical information accurately, while also engaging in meaningful interactions with different members from the medical field (e.g., classmates, colleagues, subject-specialists). Accordingly, these skills are significantly important in bridging the gap between academic learning and professional practice, based on which learners would develop the necessary skills to use in academic as well as professional communications.

The academic side of EMP focuses on equipping medical students with the skills necessary for academic success. This includes the ability to understand and to communicate meaning effectively in different medical settings, to read and interpret medical research, to understand complex terminology, and present research findings in both written and oral forms. EMP courses tailored to academic needs, therefore, emphasize reading comprehension and critical analysis of medical texts, it also focuses on developing learners' presentation skills that. For instance, in EMP classroom, students may be assigned a reading task of a scientific article

in their medical field. Subsequently, they they are required to analyze, comprehend and interpret the research findings. Moreover, EMP instruction might focus on understanding research methodologies, and discussing findings in seminars or conferences. Therefore, the ability to comprehend and communicate complex information is an essential duty and task, as it allows medical learners to stay informed on advancements in medical science and contribute effectively to academic discussions (Zhura & Rudova, 2019).

In professional settings, communicative skills in EMP are equally important, as they enable professionals whether doctors, dentists or pharmacists, to interact effectively with the surroundings healthcare counterparts or patients. Occupational needs in EMP include the ability to ask clear, precise questions, provide simple clear explanations, and document patient information accurately. These skills are essential for patient care and safety, as clear communication reduces the risk of misunderstandings that could lead to errors in diagnosis or treatment. The ability to engage in compassionate, culturally sensitive communication is especially valued in diverse medical environments, where providers may work with patients from various linguistic and cultural backgrounds (Levetown, 2008).

In EMP instruction, communicative skills are cultivated through methods like Communicative Language Teaching (CLT), which emphasizes realistic and interactive language use. For instance, CLT activities in EMP often involve role-playing doctor-patient scenarios, enabling students to practice medical dialogues and empathetic responses. This approach aims to enhance students' ability, to adapt appropriate language for patient interactions, to explain medical concepts clearly, and to respond effectively to questions. By the end, a clear foundation for academic or professional communications are built upon this process (Milosavljević, 2012). Accordingly, effective communicative skills are critical in EMP domain as they directly impact the professional relationship that stands between the medical healthcare professional and the patient. Manifesting high-quality skills would preserve a better connection between that the former and the latter based on understanding and trust. Also, these skills could result in a good collaboration among healthcare teams. Last but not least, and through targeted exercises and feedback, EMP teachers can help medical students and professionals develop both linguistic and interpersonal skills necessary for high-stakes communication in medical environments (Abugohar et al., 2019).

Though communicative skills are not the central focus of this research, it is significantly important to highlight the role of these skills within EMP instruction in Algerian medical context. This language component could be the subject inquiry in other researches tackling the

issues and challenges of teaching communicative competence to Algerian medical students. From the other hand, highlighting the role of code-switching and bilingual-based instruction in teaching communicative skills could be equally interesting.

1.6 Challenges in EMP Teaching

Teaching English for Medical Purposes (EMP) presents unique challenges for instructors and students alike. The challenging tasks are related to both teaching and learning processes and are mostly related to linguistic complexities, cultural factors, and varied levels of English proficiency among students. While the first one, which refers to the complex medical terminology related to the medical field, has already been discussed above, the two other points should form the focus of this part.

1.6.1 Cultural Considerations in EMP Teaching

Cultural considerations in teaching EMP are critical because students may come from varied backgrounds, each bringing unique cultural perceptions and learning expectations. According to Palaganas et al. (2021), cultural dimensions significantly influence teaching and learning, especially in medical contexts where patient interaction may differ across societies. Without paying significant attention to these factors, teaching methods may fail to resonate with students or, worse, hinder teacher-student relationships (ibid). From the other hand, cultural awareness is an essential aspect of effective EMP education, given that medical practice and communication styles differ significantly across cultural contexts. Teachers face challenges in bridging cultural gaps, as the norms of medical practice and interaction vary by region. Instructors must not only convey linguistic knowledge but also impart cultural nuances that are crucial for professional settings, such as patient interactions and hospital communications (Popa, 2013).

Studies by Bakić-Mirić et al. (2023) emphasize that cultural content in English for Specific Purposes (ESP) courses enhances intercultural competency, which is essential for medical students who may practice globally. They recommend that cultural literacy become part of language instruction to ensure students understand both linguistic and cultural elements of medical practice. This approach advocates for teaching language as inseparable from cultural context, promoting holistic communication skills essential in medical environments. Moreover, Byrne's (2008) research further illustrates that cultural literacy should be embedded within language education, especially in EMP, to bridge cultural gaps that may affect medical

interactions. He suggests a genre-based approach that connects language learning with cultural expectations, emphasizing that learning a language extends to understanding cultural norms that influence behavior and communication (Byrnes, 2008). This perspective aligns with current pedagogical approaches that advocate for culturally responsive teaching, where language is taught as part of a broader cultural experience.

Cultural considerations in EMP education are not merely an adjunct to language instruction but an integral component of preparing students for their professional futures. Embedding cultural literacy within EMP curricula, designing culturally safe classrooms, and fostering intercultural competencies are essential steps in addressing the diverse needs of EMP students. With these approaches, EMP instructors can create a supportive and culturally inclusive educational environment that enables students to navigate the cultural complexities of global medical practice. As far as the Algerian medical context is concerned, and given that multiple foreign students integrate the Algerian university to study medicine, pharmacy or dentistry, it is crucial to raise awareness and to tackle issue related to cultural considerations in EMP courses. This research, though not directly interested in this investigation, has shown and through discourse analysis that Algerian students communicate their cultural nuances which differ from one region to another, for instance; when a discussion about ethical considerations was raised in the classroom, teacher and students highlight the cultural and religious considerations that cope with each student's culture, religion and norms.

1.6.2 Varying Levels of English Proficiency among Students

One of the prominent challenges in teaching English for Medical Purposes (EMP) is managing students' diverse English proficiency levels, which impacts both learning outcomes and instructional effectiveness. Varying levels within an EMP classroom can limit student engagement and comprehension. According to Khalili and Tahririan (2020), students' heterogeneous skill sets lead to differences in class participation, comprehension, and learning pace, which in turn, challenge the instructors to deliver a common instruction. This study highlights that students often express dissatisfaction with course material that does not cater to their specific proficiency level, making it difficult for instructors to cover all necessary language skills equally. In a similar vein, Aizawa et al. (2020) found that language proficiency directly influences academic performance in English-medium instruction (EMI) programs. Their study on Japanese students shows that students with lower TOEIC scores reported significantly more difficulties in reading, listening, and speaking in academic contexts, which underscores the need

for level-appropriate interventions (Aizawa et al., 2020). This finding suggests that EMP educators might consider proficiency-based grouping to better manage skill discrepancies in classroom activities.

Dealing with varying language levels among learners in EMP classes is another challenging task within the Algerian context. In the latter, this problem is highly recurrent among medical students in different departments. With the absence of the necessary tools and experience to assess students' proficiency level in English, in addition to time constraints in EMP schedule and the form of the lecture that consist of delivering the EMP course to a large number of students in the amphitheater, all of which made the task of teaching a homogeneous group practically impossible. Therefore, it is significantly important to tackle this problem within Algerian medical settings and to set adequate strategies to address this issue that might potentially hinder the process of learning EMP.

1.7 Challenges in Teaching English for Medical Purposes (EMP) in Algeria's Multilingual Context

Algeria presents a unique environment for teaching English for Medical Purposes (EMP) due to its multilingual society, where Arabic and French dominate, and English is a foreign language with limited everyday usage. This situation creates distinct challenges in EMP teaching, as instructors navigate a complex interplay of linguistic, cultural, and pedagogical factors. Henceforth, the following part explores the primary challenges faced by Algerian EMP educators and highlights relevant research insights.

1.7.1 Linguistic Challenges in a Multilingual Setting

Algerian students often come from backgrounds where Arabic and French are the primary languages of instruction, making English a less familiar language. According to Rouabhia (2023), this multilingual context results in challenges for teachers, as students' limited exposure to English means they often struggle with basic linguistic structures and specialized vocabulary in EMP courses; This is particularly problematic in medical English, where precise terminology is crucial. In the same vein, Djaileb (2018) adds that the lack of adequately prepared EMP materials, combined with the general absence of English use in the Algerian medical field, complicates students' engagement with EMP content. As students are generally more comfortable in Arabic or French, they may resist or struggle with using English, especially in technical discussions related to medicine.

1.7.2 Resource Constraints and Teacher Preparation

The lack of resources and inadequate teacher training are major obstacles in Algerian EMP instruction. Rouabhia (2023) highlights that limited access to instructional materials, such as specialized EMP textbooks and multimedia resources, impedes effective teaching. In rural areas, these constraints are even more pronounced, making it difficult for teachers to create engaging and comprehensive lessons. Furthermore, Djaileb (2018) notes a significant gap in specialized training for EMP instructors. Most EFL teachers are not specifically trained in medical English, making it challenging to teach highly technical content with the precision required in the medical field. This lack of preparedness not only impacts the quality of instruction but can also lead to disengagement among students, who may feel that their learning needs are unmet.

1.7.3 Multilingualism and Cultural Context challenges

Algeria's multilingual environment, where Arabic and French are the dominant languages, presents additional challenges in EMP education. Slimani (2016) notes that English is still considered a foreign language, and the educational and societal focus remains on Arabic and French, which reduces the perceived importance of English. This cultural backdrop affects students' motivation and the resources allocated to English programs, creating a challenging environment for EMP instruction. Moreover, the multilingual context means that students often struggle to switch between languages, especially when medical terminology in English differs significantly from familiar Arabic or French terms. This linguistic challenge hinders students' comprehension and fluency in English for medical contexts, as they may not have a robust foundation in English to support the acquisition of specialized vocabulary (Djaileb, 2018).

The Algerian medical context reveals a number of challenges and difficult tasks in EMP instruction whether affecting the teacher's instruction or the students' learning process. Little research has been raised in this field, leaving a large gap to solve these educational problems. Consequently, this research took the initiative to tackle some of the issues raised above, more precisely, the challenging task of learning specialized vocabulary and medical terminology. This study, therefore, examines the role of English/French code-switching as a fallback to address medical learners' comprehension issues related to vocabulary. In the meanwhile, it explores both; teachers' and students' attitudes towards this strategy and whether it could be implemented in EMP courses in Algeria.

1.8 Conclusion

The literature review on English for Medical Purposes (EMP) highlighted its crucial role in medical education and practice, focusing on its specialized language requirements and the various pedagogical approaches used to address these needs. EMP plays a significant role in preparing medical students and professionals to effectively communicate in academic and occupational medical settings. This chapter explored the theoretical foundations, scope, and challenges associated with teaching EMP, including pedagogical strategies like Content-Based Instruction, Task-Based Language Teaching, and Problem-Based Learning. Moreover, it discussed the specific needs of EMP instruction in multilingual contexts, such as Algeria, where language proficiency and cultural considerations pose unique challenges. Overall, EMP is vital for bridging language barriers in medical education, and addressing these challenges is essential for the advancement of healthcare professionals' communication skills and effectiveness in their practice. As for Algerian medical learners, tackling issues related to their EMP development and language learning should be the focus of future research investigations. To this point, the present study, subsequently, provides a second theoretical chapter concerning one significant phenomenon that emerges as a strategic practice within EMP course.

CHAPTER TWO
LITERATURE REVIEW

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2.1 Introduction

The second theoretical part presents relevant literature review on the phenomenon of code-switching. Accordingly, this chapter presents a comprehensive review of the literature surrounding bilingualism, multilingualism, and the rise of code-switching (CS). It begins with definition and overview of the historical and social factors that have contributed to their prevalence in diverse global contexts. This is followed by an exploration of the concept of "code," as it is used in linguistic studies to denote different language varieties, such as dialects and registers. Next, the chapter introduces code-switching, reviewing various definitions and theoretical approaches, each highlighting unique aspects of the practice within bilingual and multilingual communities. Subsequent sections categorize types of CS, from intra-sentential and inter-sentential to tag-switching. The chapter then reviews different approaches to CS, including structural, sociolinguistic, and pedagogical perspectives, which reveal the phenomenon's significance across linguistic and social dimensions. The functions of CS are then discussed, particularly in educational contexts, where it serves as a tool for bridging linguistic gaps and enhancing communication. Finally, a rationale is provided for the approaches and models selected in this review, underscoring the chapter's focus on examining the pedagogical and non-pedagogical functions of CS within Algeria's educational setting, specifically in relation to EMP courses.

2.2 Bilingualism and Multilingualism

The fact of using, fluently and accurately, another language or several languages besides the mother tongue has emerged to be known as bilingualism and multilingualism. These phenomena have emerged all over the world due to a number of events among which globalisation, emigration, technological advances and the expansion of educational provision to different levels of society paved the way towards a new bilingual and multilingual world. (Milroy & Muysken, 1995)

Globalisation and the emergence of economically powerful countries, directly or indirectly, stimulated the increase in number of populations speaking, in addition to their local national languages, international languages like English and Spanish. In fact, many of the presumed languages have exceeded their geographic boundaries as an aftermath of centuries of colonisation. Algeria, for instance, was kept as a French colony for more than a century; as a result, a multilingual Algerian population speaks French alongside two official

languages Arabic (MSA) and Tamazight¹. Another reason for the spread of bilingualism and multilingualism is the large-scale social changes and language revival. The latter is manifested in countries like Belgium, Canada and Switzerland where bilingualism is institutionally legitimised and has a historical and social background. Indeed, these reasons, in concordance with others, paved the way for many more stances of bilingualism and multilingualism that affect both society and individual (Milroy & Muysken, 1995).

2.3 Definition of Code

In linguistics, the term "code" is often used to describe various forms of a language. It can refer generally to a language or more specifically to a variation, such as a dialect, style, or register. Wardhaugh (2010) explains that a code represents a specific language or dialect selected by individuals for communication in particular contexts. The concept of "code" originated in fields outside of linguistics and only began to relate to language in the 1960s and 1970s through the work of Bernstein (1962, 1972, 1974). Once adopted in linguistic studies, the term started to replace the broader term "variety" in covering distinct sub-categories within a language (Gardner-Chloros, 2009).

Unlike code, the term switching had a clear definition from the beginning and was not adapted to language. Switching appeared in the early psycholinguistic studies of bilingualism in the 1950s and 1960s and represented the bilingual speaker 's alternation between the languages or the varieties in his/her talk. Yet, the term switching and alternation were used interchangeably. Therefore, the former is just one of many possibilities (Gardner-Chloros, 2009).

In the present study, the word code is used to refer to two different languages; English which holds the status of the second foreign language in Algeria and French which is considered a de facto second language linguistically and a de jure first foreign language. Both languages are used in a switching manner by teachers and students alike in the EMP instruction.

¹ The umbrella term for the indigenous language of the ethnic people known as Berbers, (who lived in different parts of north Africa, for instance; Algeria and morocco, under which we find many dialects like kabyle, chaoui, mozabite,...etc

2.4 Definition of Code-Switching

In bilingual and multilingual speech communities, people tend to use more than one language in their speech or conversation with others. This phenomenon referred to as Code-Switching² (hereinafter CS) is “perhaps the central issue in bilingualism and multilingualism research” (Milroy & Muysken, 1995, p. 7). CS may occur in various situations according to which a bilingual or a multilingual speaker may, consciously or unconsciously and due to some reasons, shift from one speech variety to another or from one language to another.

CS has been a central issue for investigation and research for decades. Different researchers in linguistics (Poplack, 1980; Appel and Muysken, 1987; Myers Scotton, 1992 & 1993) and in sociolinguistics (Blom and Gumperz, 1972; Auer, 1988) examine CS as an attempt to describe the various aspects governing this phenomenon as well as the different contexts in which it has been addressed. Therefore, researchers set multiple definitions, each depending on a specific approach and on a particular context.

Hymes (1977, p. 103) refers to CS as “the alternate use of two or more languages, varieties of a language, or even speech styles”. Whereas Valdés-Fallis (1978, p. 6) describes the phenomenon as “the alternating use of two languages on the word, phrase, clause or sentence level”. Those definitions are among the earlier attempts to define and describe CS.

Poplack (1980) defines CS as a substitution of the morphological constituents of a given language by other constituents from another language. This substitution may occur within a clause, a sentence or a single discourse. Poplack’s (1980) study holds a grammatical structural perspective, therefore she determines CS by the extent to which items are being integrated at the level of phonology, morphology and syntax. Poplack (1980), Like many linguists (Timm, 1975; Pfaff, 1976), claims that code-switching cannot occur randomly since it is a rule-governed and a logical phenomenon. Therefore, she focuses more on the conditions under which CS should occur and the principles that constrain this switching.

Expanding on Poplack’s (1980) insights into code-switching (CS), Myers-Scotton (1993) characterizes CS as involving “the integration of two language varieties within a

² There are three different ways of spelling the word *Code-Switching*; with a hyphen, the previously mentioned word, as one word (codeswitching) or as two words separated by a space (code switching). The hyphenated version is widely used in literature, therefore; it will be adopted in this thesis. However, the other spellings (as written by scholars) will be preserved in direct quotations.

single conversation” (p. 239). Influenced by Poplack’s earlier work, her research primarily examines the grammatical principles of CS, particularly focusing on the “morphosyntactic” rules that shape this practice. Myers-Scotton’s (1993) perspective forms the foundation of her Matrix Language Frame (MLF) Model, which she developed to understand and describe CS from a morphological viewpoint. Within this model, she explains that CS occurs when bilingual or multilingual speakers incorporate elements from an embedded language within a conversation predominantly structured by a matrix language (p. 4). This model emphasizes the “intra-sentential” dynamics of CS, where morphemes from multiple languages appear within a single sentence. The Matrix Language (ML) provides the main morphosyntactic framework for the conversation, while the Embedded Language (EL) contributes forms that are syntactically and morphologically adapted to fit within the ML (Myers-Scotton, 1992).

Gumperz (1982), embracing another perspective and tackling CS from a different angle, provides a different definition by referring to CS as “the juxtaposition within the same speech exchange of passages of speech belonging to two different grammatical systems or subsystems” (p. 59). CS, as the name suggests, is characterized by the shift back and forth between two different codes in a particular context with particular interlocutors and according to particular circumstances. The latter can lead to a “situational code-switching” if the setting itself imposes the shift and demands a different code or it can create a “metaphorical (conversational) code-switching” when the speaker, intentionally, switches to another language or a variety as an attempt to change the situation or to convince the others of his own perception of the new situation. In this case, it is the speaker who determines the choice of language. Accordingly, Gumperz (1982) studies CS from a sociolinguistic perspective and a communicative purpose, as he focuses, in his research, on the ³extra linguistic factors that influence the switching from one code to another in a given conversation.

Auer (1984) challenges Gumperz's (1982) idea that language choice is directly determined by situational context, describing it as overly simplistic and asserting that it allows for more flexibility and negotiation between participants in a conversation. From Auer's perspective, this distinction should be adaptable to the situation, as speakers often

³ The extra-linguistic factors influencing CS research do not manifest the same set of social factors in all the studies of CS, each study however focuses on different extra-linguistic factors. Myers-Scotton (1993), for instance, identifies different social factors.

shift between codes to align with the demands of particular contexts. He proposes replacing metaphorical and situational categories with “discourse-related” and “participant-related” CS. In this framework, “discourse-related” CS is employed to enhance the interactional meaning of an utterance, while “participant-related” CS considers variations in language preference among the individuals involved in the conversation (Auer, 1998). Auer further explains CS as the “alternating use of two or more language codes within a single conversational exchange” and highlights the importance of social and cultural awareness in better understanding CS practices within specific contexts (Auer, 1998).

Recent definitions of code-switching (CS) align with earlier research, suggesting that CS arises from the varying situations a speaker faces in a multilingual context. According to Hudson (1996), CS occurs when speakers select one language or variety over another due to social factors. For example, people may change their language when moving from informal family interactions to more formal situations, such as discussions between employees and employers or conversations with colleagues. In northern Italy, for instance, in the village of Sauris, residents often speak German within the family, the local Saurian dialect with other villagers, and standard Italian with outsiders or in formal contexts like church, school, and work (Denison, 1971, as cited in Hudson, 1996). Consequently, the necessity to adapt to different social settings often leads speakers to code-switch either intentionally or unconsciously, making CS a natural outcome of living in a multilingual society (Hudson, 1996).

This study embraces the above-mentioned definitions of CS, and agrees that each definition holds a particular stance and deals with the phenomenon in term of a distinct approach, be it linguistic, sociolinguistic, psycholinguistic, conversational or pragmatic. Therefore, the fact of putting these definitions under comparison or contrast is futile. As far as this research is concerned, the primary focus is to examine the functions of CS notably; the pedagogical and non-pedagogical functions within a particular medical setting in Algeria (EMP course in 2nd year pharmacy studies at Sétif 1 university). Therefore, and as mentioned above, this study adopts the broad definition of code-switching which is, the alternation between two or more than two languages or language varieties in someone’s talk or conversation with others.

2.5 Code-Switching: Terminology and Definition Controversies

Code-switching (CS) remains a debated concept, both in terms of terminology and definition, with multiple attempts to establish a unified understanding proving unsuccessful. Gardner-Chloros (2009) suggests that defining CS within rigid boundaries is unnecessary, as it "is not a fixed phenomenon but rather a construct created by linguists to describe their data" (p. 10). As a result, scholars from disciplines such as linguistics, psycholinguistics, and sociolinguistics have not reached a shared definition or terminology for CS.

Boztepe (2003) observes that, as with other areas of language contact studies, code-switching (CS) research is challenged by persistent terminological ambiguity (p. 4). A primary source of confusion lies in the interchangeable use of CS and code-alternation. While code-alternation can sometimes replace CS, it is typically more narrowly defined and occasionally serves as a subset within the broader CS concept. CS is a technical term encompassing various linguistic practices, whereas code-alternation more specifically refers to substituting one part of a sentence in one language with a corresponding part from another. This narrower term often, though not always, involves longer stretches of language being replaced with equivalent segments from a different language (Boztepe, 2003).

Switching and alternation, though the most used in literature, are not the only terms that could be related to code. Insertion, though not very common, is another term that exists in literature, notably; in the studies and researches concerned with language contact phenomena. Code-insertion, in contrast to alternation, refers to inserting single lexical items, generally taken from a particular language, into the structure of the recipient language (Myusken, 2000). Researchers like Myusken (2000) have distinguished between alternation and insertion arguing that CS requires an alternation between languages or varieties of the same language in a particular discourse, whereas insertion refers to another phenomenon called code-mixing. The latter will be discussed in the next paragraph.

Another confusion emerges out of the question of whether CS occurrences take place within a single sentence, i.e., at an intra-sentential level, or exceed the level of a sentence and occur between sentences, i.e., at an inter-sentential level. Researchers could not agree on a clear distinction between the two kinds of CS. Yet, some researchers (e.g., Kachru, 1983; Myusken, 2000) claim that CS cannot be used as an umbrella term to cover both intra and inter sentential CS since each process operates in a different manner. To differentiate between the type of switching which occurs at a sentence level and the type which occurs

between sentences, many researchers (Kachru, 1983; Singh, 1985; Myusken, 2000) suggest to preserve the term CS for inter-sentential switching, and claim that the type of switching that happens between sentences is a kind of alternation and not insertion. The latter refers to the type of switching which happens at an intra-sentential level. Intra-sentential switching refers to the insertion of lexical items of a given language in the sentence of the recipient language. Researchers (e.g., Kachru, 1983; Singh, 1985) refer to the switches that happen at the sentence level by code-mixing. They also claim that there are structural constraints that govern this kind of switching, since the lexical items, taken from a particular language and integrated in the recipient one, are governed by both languages' rules.

While there is a little confusion about CS and code-mixing and the distinction between those two phenomena is drawn in different ways, a great number of researchers (e.g., Sridhar & Sridhar, 1980; Kachru, 1983; Singh, 1985; Bokamba, 1988) agree on the point that, the switches in code-mixing are restricted to the sentence level, whereas the switches in CS occur beyond the sentence level. Another classification is made by Pfaff (1979) who treats code-mixing as a cover term for both intra-sentential CS and borrowing. As Pfaff (1979), many researchers (e.g., Poplack, 1980) agree that borrowing is a subdivision of code-mixing, since borrowing consists of the intra-sentential integration of lexical items into the morphological system of the base language⁴. Yet, they (Pfaff, 1979; Poplack, 1980; Poplack & Sankoff, 1984) insist on a clear-cut distinction between CS and borrowing. While the difference between CS and code-mixing seem to be tangible, the former is much more complicated (Boztepe, 2003).

CS has a broad sense and can be used as an umbrella term for many of the language contact phenomena as code-mixing, alternation, insertion, and borrowing (Pfaff, 1979). Yet, many researchers (Pfaff, 1979; Poplack, 1980; Clyne, 1987; Meisel, 1989; Myusken, 2000) attempt to establish a clear distinction between the mentioned phenomena and to give an autonomous status to each. While others (Gardner-Chloros, 1987; Myers-Scotton, 1992) claim that, it is a very difficult challenge to draw clear boundaries between CS, code-mixing and borrowing. "CS research is replete with a confusing range of terms descriptive of various

⁴ Boztepe (2003) defines the "Base Language" as the primary language in a code-switched statement, carrying most of the phonological and morphological characteristics of the discourse (p. 6). In this context, the terms Base Language, Recipient Language, Host Language, and Matrix Language will be used interchangeably.

aspects of the phenomenon. Sometimes the referential scope of a set of these terms overlaps and sometimes particular terms are used in different ways by different writers” (Milroy & Myusken, 1995: 12). Therefore, Eastman (1992, qtd. in Gardner-Chloros, 2009: 10) asserts that “Efforts to distinguish code-switching, code-mixing and borrowing are doomed”.

As part of language contact phenomena, research on CS, code-mixing and borrowing triggers multiple definitions and various distinctions. Each definition and distinction depends on a different conceptualisation and a different perspective. Yet, two clearly set dichotomies; CS versus code-mixing and CS versus borrowing, are the most addressed combinations in literature. Consequently, the next section will provide a concise description concerning the two dichotomies.

2.5.1 Code-Switching Vs. Code-Mixing

As stated in the previous section, the general difference between code-switching and code-mixing is determined by the position of the switches; within the sentence or beyond the sentence level. Code-mixing, consequently, refers to the intra-sentential switching whereas, CS embraces the second category i.e., inter-sentential switching. The difference between the two phenomena is not only a matter of position; where the switches take place, it is more complicated and requires an in-depth investigation. Researchers have dealt with this dichotomy from various angles.

One of the clear distinctions of CS and code-mixing is set by Myusken (1995), who refers to the phenomena as insertional CS and alternational CS. Both are dealt with from a grammatical perspective. Insertional CS (Hamers & Blanc (1989) called ‘code-mixing’) operates between two languages; one is the dominant language in which lexical items are being inserted, while the other language is the one which provides the lexical items. In this kind of insertion, the grammar of each language works in isolation, and each language keeps its own grammar and lexicon present in the sentence i.e., there is no merge or fusion between the two systems. Alternational CS, on the other hand, consists of longer stretches of base language replaced by others from the second language. This type of alternation, also requires the autonomy of the two languages’ systems including; grammar and syntax. Furthermore, there is no sign that the base language switches are embedded in the second language or vice versa (Myusken, 2000). But, as far as the switched fragments occupy the edge of the utterance, and are not “preceded and followed by switches from the second language”, alternation is more likely (Hamers & Blanc, 2000, p. 261).

Muysken (2000) delineates the scope of code-mixing, suggesting that it involves the replacement of lexical items from one language with equivalents from another, free from phonological or syntactic influence from either language. If such influence occurs, the process is better classified as borrowing rather than code-mixing. Weinreich (1953) shares similar boundaries, although he views code-mixing as indicative of bilingual inadequacy. According to him, an "ideal bilingual" switches languages only when the context changes (such as interlocutor or topic) and avoids mixing languages within a single, unaltered context, especially not within one sentence (Weinreich, 1953, as cited in Muysken, 2000, p. 1). This lack of language proficiency can manifest in the primary language, with code-mixing compensating for lexical gaps (Hamers & Blanc, 2000, p. 270). In contrast, others argue that code-mixing reflects bilingual proficiency, particularly when done fluently and effortlessly (Poplack, 1980). Code-switching (CS) and code-mixing can also serve as a distinct bilingual code, enabling speakers to convey attitudes, intentions, social roles, and group identity (Hamers & Blanc, 2000, p. 270).

Many researchers (e.g., Clyne, 1967; Kachru, 1982) assure that there is a very thin line between CS and code-mixing, and the distinction between the two is not absolute. Sometimes switches can be classified in either categories, because they occur at all linguistic levels and without the submission or the conversion to either languages' rules. Yet, code-mixing can be embedded in code-switching, while the latter can be triggered by the former.

2.5.2 Code-Switching Vs. Borrowing

while the distinction between CS and code-mixing seems to be an easy task, the second dichotomy demonstrates a further subtle relationship. Many researchers (e.g., Gardner-Chloros, 1987; Myers-Scotton, 1992) argue that the attempt to set a clear-cut distinction between CS and borrowing is a hard task and a real challenge. The idea that CS is regarded as an umbrella term under which, all language contact outcomes are identified, is doubtful because; these language phenomena are anything but simple (Boeschoten, 1997).

To highlight the difference between CS and borrowing, we should know that, diachronically speaking, CS paved the way for the emergence of borrowing (Sankoff, 2001). Haust (1995) states that borrowed words or loanwords⁵ were part of the switching forms

⁵ Though the terms loanwords and borrowings may be used interchangeably, the latter, in research, refers to code-switched utterances (one or more lexical items called "nonce borrowings") known by

which; throughout time, have been adapted to cope with the system, notably; grammar and phonology, of the borrowing language. CS, as mentioned before, is the alternation between two languages or two language varieties in an utterance, whereas borrowing consists of the integration of the lexical components of a language in the “lexicon” of another language (Myusken, 1995 189).

It can be noticed, from the previously stated definitions, that the difference between CS and borrowing is highlighted by the level of integration of the switches within an utterance. If the switches remain at the surface level and are unchanged i.e., do not interfere in the system of the host language and do not submit to its rules, here we are talking about CS. However, if the switches demonstrate a form of integration of the lexical items in the system of the host language at the phonological and morphosyntactic level, we are talking about borrowing. Furthermore; while borrowing is embedded in language, CS is the manifestation of the bilingual’s speech, characterised by producing mixed utterances taken from two different languages. Consequently, CS as a “contact-induced speech behaviour” differs sharply from borrowing; a kind of “contact-induced language change” (Haspelmath, 2009, p. 41).

The first attempts of analysing CS and borrowing as a dichotomy set simple criteria to determine, whether a switching form falls in the former category or in the latter. The first criterion is related to the speech community. borrowing occurs in the speech of monolinguals, who have conventionally adopted and used the borrowed words as part of their language, while CS is more noticeable within bilingual speech communities (Haspelmath, 2009). Yet, this criterion is helpful but at a limited extent, because most of the speech communities are bilingual. In the latter case, where both phenomena occur within the same speech community, the distinction relies on other criteria. For instance, if a word originating in another language, is conventionally and frequently used to express a particular concept; it is considered as borrowing. However, if a concept is expressed differently by means of different items, and highlights an individual ‘variability’; the items are regarded as CS (ibid: 41). Even though these criteria set a basic distinction between CS and borrowing,

their infrequent and temporary use in the conscious speech of interlocutors. However, loanwords are lexical items that have gained status and permanent use in a monolingual speech and are known by their widespread and unconscious use by speakers, who may even forget that those items are adopted from a foreign language. (Romaine, 1989)

integration versus alternation remains the most important distinguishing feature (Poplack, 1980; Poplack & Sankoff, 1984).

As far as the criterion of frequency is concerned, Myers-Scotton (1990) claims that the fuller the words are integrated into the matrix language the more frequent they occur and vice versa. subsequently, the former words are borrowing while the latter words indicate CS. She, further assumes that in order to use CS, the bilingual speaker should require a certain level of bilingual competence. that is why CS is less frequent than borrowing which requires no competence.

CS and borrowing are also two distinct language phenomena in terms of function. Borrowing functions as a lexical gap filler in the recipient language, while CS provides instances of language which already have equivalents in the other language (Bentahila & Davies, 1983; Sridhar & Sridhar, 1980). Yet, this distinction remains vague, because borrowings which play the mentioned role are just one category from a larger set. Myers-Scotton (1993a) refers to this category as cultural borrowing. The latter are words which represent concepts or objects that are culturally odd to the speakers of the host language. Consequently, they use these borrowed words to introduce and identify such concepts and objects to their culture, since they have no equivalents in their language.

Another category of borrowed words, Myers-Scotton (1993a) calls core borrowing, have similar “viable” equivalents in the recipient language (ibid: 169). Therefore, Core borrowings are words that replace existing equivalents -and express the same meaning as these equivalents- by taking their place within the host language. they may also duplicate existing words without taking their place within the recipient language i.e., both; equivalents and borrowings are used interchangeably. Unlike cultural borrowings which are established and used due to an urgent need, core borrowings do not express the same urge because of the existing equivalents in the parallel language. Myers-Scotton (2006) argues that the incorporation of core borrowings within a language may happen by means of cultural pressure of one language on the other. This pressure grants a prestigious status to the dominant language, while it consumes the vitality of the other language. Consequently, the use of core borrowings becomes more prestigious than the use of equivalents. Nevertheless, the distinction between borrowing and CS in terms of function remains inadequate, because the latter may confusingly manifest some of the functions of the former (Bentahila & Davies, 1983).

The distinction between CS and borrowing has long been a matter of contradiction and controversy. A group of researchers (Bentahila & Davies, 1983; Myers-Scotton, 1993a), embrace the belief that distinguishing between CS and borrowing is trivial, since each phenomenon, if analysed alone, will bring little or nothing to the analysis of bilingual speech. They prefer to deal with CS; which refers to alternation, and borrowing; which refers to insertion, as two instances occurring in the same process called CS, rather than two distinct processes. Another group of researchers (Poplack, 1980; Sankoff & Poplack, 1981), on the other hand, argue that distinguishing between CS and borrowing is necessary because they operate according to two different mechanisms. The first demonstrates an alternation between instances of two different languages, keeping their phonological and grammatical systems distinct from each other and therefore; an independent identity for each language. The second consists of the phonological and morphosyntactic integration of words or short phrases into the host language. Consequently, the integrated items, known as borrowings, are granted a particular status within the recipient language.

Poplack (1980) set three different criteria to distinguish between CS and borrowing. As stated in the previous paragraph, loanwords need to be integrated in the system of the recipient language. This integration, according to Poplack (1980), operates at three different levels; phonological and morphological assimilation in addition to syntactic accommodation of the loanword into the base language. as highlighted in her table (Poplack, 1980, p. 584), if the lexical item demonstrates the three criteria of integration (1), it is regarded as borrowing. However, if the assimilation is only at a syntactic level (2) or only at a phonological level (3), or if there is no assimilation at all (4), the switches in this case constitute an instance of CS. the following examples⁶ refer to the four types in table 1:

(1) /Siyyi/ *ce médicament*⁷

Essaye ce médicament

Try this medicine!

⁶ The four mentioned examples are taken from real pedagogical settings in Algeria. Examples (1), (2) and (3) appear in students/students' interaction attending an occupational medical course in the Language and Communication institute (LCI) in Sétif, Algeria. Example (4) appears in teacher/students' interaction in an academic medical course delivered to 2nd year pharmacy students in the faculty of medicine, university of Sétif 1, Algeria.

⁷ In this example and in further examples occurring in this research, segments written in French are presented in italics.

(Algerian Arabic/ French)

- (2) Lyoum *ʃefna* /*les symptômes*/ *kamel*...

Aujourd'hui, on a étudié les symptômes [tous] ...

Aujourd'hui, on a étudié tous les symptômes...

Today, we have studied all the symptoms...

(Algerian Arabic/French)

- (3) /*liṣṭoma*/, *que ce soit l'organe ou le ventre*

L'estomac, que ce soit l'organe ou le ventre

Stomach, as an organ or a belly

(Algerian Arabic/French)

- (4) *Faites l'exercice*/ in pairs

Do the exercise in pairs

(French/English)

The above examples refer to the different types of integration, thus; to the identification of whether a switching form is regarded as CS or not. In example (1), the word /*Siyyi*/, though etymologically is a borrowing verb from French '*essayer*', has been phonologically and morphologically integrated in the speech of Algerians and has become an instance of monolingual Algerian discourse. In /*siyyi*/, some of the phonological patterns are dropped (the first vowel sound [e]), others are replaced ([e] in '*essaye*' replaced by [i] in '*siyyi*') to cope with the phonological rules of Algerian Arabic. In addition, the verb /*siyyi*/ is morphologically adapted to Algerian Arabic via the affixation of the morpheme '*i*' at the end of the verb. The morpheme ('*i*') indicates the tense (present tense) and the personal pronoun (you; for both masculine and feminine), while the mood is referred to by removing the affix (e.g., '*t*') placed at the beginning of the word (like in this case /*Siyyi*/) to indicate the imperative, or to put an appropriate affix at the beginning of the word to indicate another mood (e.g., '*tsiyyi*?' (you try?) for the interrogative). Furthermore, the verb /*siyyi*/ follows the syntactic patterns of Algerian Arabic (omission of pronoun and verb placement at the beginning of a sentence in the imperative mood). Yet, in example (1), surprisingly, the syntactic patterns of Algerian Arabic happen to be similar to the French patterns. Therefore, in both languages, the imperative is formed by; verb plus suffix (e.g., '*ez*' in '*essayez*' to indicate the second person plural pronoun 'you') which refers to the person or people the speaker is addressing, plus object. (Imperative= Verb + (suffix = pronoun) + Object)

In example (2), the French word '*les symptômes*' which means 'the symptoms' in English, though keeping the phonological and morphological aspects of French, adhere to the syntactic features of the sentence (syntactic integration into Algerian Arabic), i.e., the noun is placed before the French indefinite adjective '*tous*' ('all' in English and /kamel/ in Algerian Arabic) which is not a common rule in French (the French rule says that the indefinite adjective should be placed before the noun, in this case '*symptômes*' should be placed before '*tous*'). Consequently, since it is only syntactically integrated into the base language, this word, according to the identification based on the level of integration of CS (Poplack, 1980), is considered as an instance of CS. Example (3) is also regarded as an instance of CS, although it shows another level of integration. Etymologically speaking, the word stomach ('*l'estomac*' in French) is borrowed from the Greek glossary "stomakhos" to French and English. Subsequently, the word 'listoma' is taken from the French version '*l'estomac*'. in example (3), the former is morphologically and syntactically identical to the latter, however, the phonological integration of the word *l'estomac* into Algerian Arabic triggers a new foreign accent different from the original, thus resulting in /listoma/.

Example (4) reveals no integration at any level of the base language. the sentence '*faites l'exercice in pairs*' consists of two segments taken from two different languages; French and English. The two parts of the sentence are balanced, as each preserves its phonological, morphological and syntactic features and keeps each language patterns distinct from the others. Consequently, this sentence manifests an instance of CS. Poplack (1978, 1980) argues that this kind of switching, in which the speaker is able to control the integration of patterns of one language into the other by preserving the original shape and items of both; the host and the guest⁸ languages, and by preventing the phonological, morphological and syntactic transference from one language to the other.

We can notice that the previously mentioned identification and criteria, set by Poplack (1980) to distinguish between the two phenomena, maintain a prolonged controversy. One of the main opponents to this identification and to Poplack's views concerning CS and borrowing is Myers-Scotton (1992, 1993a). The latter argues that the criteria set by Poplack (1980), based on which a switching form is either an instance of CS

⁸ The guest language is the L2 or FL that integrates into the mother language or the L1 phonologically, morphologically and/or syntactically, therefore; it is the second language in code-switching and is the language that fuses with the host language. (Poplack, 1980)

or borrowing, can set neither a clear-cut distinction between the phenomena nor a crucial vitality to CS research. She (1992) further elaborates that such criteria create more ambiguity and confusion, since no one can get access to the mental lexicon of the speaker. Therefore, on this basis, no one can clearly identify CS and borrowing and how they operate. Furthermore, this characterisation can be significant only if other social criteria are taken into consideration, for instance; the frequency of use. Moreover, the two phenomena, if analysed in isolation and purely from a structural perspective, may generate only one-sided data. In addition, CS and borrowing are parts of the same continuum, and the former can pave the way to the emergence of the latter, since, diachronically speaking, instances of CS can gradually be transformed into borrowings.

A further distinction within borrowing per se has been discussed by a number of scholars (Clyne, 1967; Poplack, 1980, 1988, 1990; Poplack & Sankoff, 1984). The criteria set by Poplack (1980) to differentiate between CS and borrowing missed one description. The latter is a critical point, based on which, borrowing is divided into; established borrowing and nonce-borrowing. Poplack (1990) points out that the category of nonce-borrowing embraces the integration at two levels; morphology and syntax, however, borrowed items may or may not show a phonological assimilation. Henceforth, established borrowings demonstrate a full integration into the host language. On the other hand, nonce-borrowings which are derived from established borrowing, reject the phonological adaptation. A further distinction is highlighted by the fact that, established borrowing and nonce-borrowing do not show the same degree of social integration and acceptance. Yet, nonce-borrowing may gain the same status of established borrowing throughout time; when the former is propagated through the speech community and adopted by monolinguals. Hamers and Blanc (2000, p. 259) refer to the fully integrated borrowings as part of ‘*langue*’⁹, because the integration takes place in the system of the base language. Besides, the lexical items, when integrated in a new language, lose their original status in exchange for a new status granted by the recipient language. However, nonce-borrowings are regarded as part of ‘*parole*’¹⁰.

⁹ *Langue* (what Chomsky (1957) refers to as competence) is the first concept in the dichotomy of De Saussure (1962) and is defined as the underlying abstract system of language “which reflects what is stable about particular utterances” (Gumperz, 1982, p. 11).

¹⁰ *Parole* (Chomsky’s (1957) similar concept to parole is performance) is the second concept in the dichotomy of De Saussure (1962), it refers to “the actual speech utterances produced by individuals

Borrowings, particularly established borrowings, initially started as individual linguistic innovations, gradually spreading to broader communities. These borrowed terms become fully embedded within the recipient language, adopting its grammatical and phonological norms. Essentially, borrowings began as unique individual expressions but evolved into accepted elements of conventional language use over time (Haspelmath, 2009). According to Haspelmath, established borrowings are so integrated that they are used as a natural part of the language, even by monolingual speakers, in contexts where code-switching does not occur (p. 40). Nonce-borrowings, however, remain informal and are often morphologically adapted but retain their original pronunciation. Since code-switching (CS) also involves temporary use of elements from another language, it is sometimes mistaken for nonce-borrowing (ibid, p. 41). Deciding if a language element is a nonce-borrowing, established borrowing, or an example of CS requires assessing each speaker's use individually (Gardner-Chloros, 2009). Aikhenvald (2002, as cited in Gardner-Chloros, 2009) reinforces this point, noting that what might appear as a nonce borrowing or an occasional instance of code-switching for one person could be an established morpheme for another (p. 12).

Based on the previously mentioned reasons, researchers like Myers-Scotton (1992, 1993a) reject the distinction between borrowing and nonce-borrowing claiming that, such a distinction is fuzzy; as it creates more contradiction concerning the broader distinction of CS and borrowing. In the same vein, two opposing stances concerning the dichotomy of CS and borrowing are determined by; on the one hand, Poplack and her associates¹¹ who have dealt with these language phenomena from a contrasting perspective. Accordingly, their researches attempt to shed light on the differences that may occur between CS and borrowing in general and, established borrowing and nonce-borrowing in particular. On the other hand, Myers-Scotton (1992, 1993a) regards the distinction between CS and borrowing as trivial,

on specific occasions, which are never quite the same from situation to situation” (Gumperz, 1982, p. 10).

¹¹ A major contribution to the study of code-switching is made by Poplack and a number of researchers who have focused on the linguistic aspects of CS, the grammatical constraints governing this phenomenon and the grammatical distinction between CS and borrowing. Therefore, all the authors who have taken part in Poplack's works like Sankoff and Poplack (1981), Poplack, Wheeler, and Westwood (1987), Poplack, Sankoff and Miller (1988) and Sankoff, Poplack, and Vanniarajan (1990) are referred to as “Poplack and her associates” (this term has been used by many researchers e.g., Myusken (2000), Boztepe (2003)).

claiming that the attempt to delimit borrowing from CS is unnecessary to bilingual speech analysis as well as confusing to both; the bilingual speaker and the researcher. Furthermore, she also drops the morphosyntactic criterion, based on which the two phenomena are being distinguished, claiming that the structural aspects alone cannot yield valuable results. Therefore, she rather focuses on the social criteria, notably; frequency and acceptance of these phenomena among speakers of bilingual communities. She asserts that only social features, like frequency and acceptance, can lead to a clear-cut distinction between CS and borrowing. Eventually, the fact that there are more similarities than differences between the two phenomena, a great deal of Myers-Scotton's focus rather emphasises the fundamental similarities between CS and borrowing.

In the present research, the researcher embraces some of the views mentioned above, in the meanwhile she highlights the ones which do not serve the purpose of this study. First of all, she advocates the view which asserts that all forms of language alternation (code-mixing, borrowing, inter-sentential switching, intra-sentential switching, etc) are referred to as CS (Auer, 1995). In the second place, CS is scrutinised not only from a linguistic structural perspective, but it also has social, psychological, pragmatic and even pedagogical dimensions (see section 2.7 Approaches to Code-Switching). As a phenomenon, CS operates at different language levels; be it phonological, morphological, syntactic or semantic. It also occurs at different stages; from word formation to discourse combination. In addition, CS can be a random or a deliberate speech behaviour, thus, it may occur both consciously or unconsciously (Yankova & Vassileva, 2013). Some of the assumptions mentioned before draw the line of investigation in this study.

This research aligns with Myers-Scotton's (1993a) perspective that code-switching (CS) and borrowing exist along a continuum. However, precisely defining this continuum proves difficult. Furthermore, we support Myers-Scotton's (1992, 1993a) view that CS and borrowing, when treated as one process, exhibit similar morphosyntactic patterns within the matrix language. Additionally, we concur with Haugen (1953) that "borrowing extends beyond merely fulfilling linguistic needs" (p. 373). In line with Myers-Scotton (1993a), we see borrowings not only as a means of filling lexical gaps in the recipient language but also as forms that may replace existing equivalents in the other language. It is important to note that distinctions between these categories are of minimal relevance to this study. This is partly because, as Eastman (1992) argues, there is value in moving "beyond categorizing non-native elements as either borrowing or switching" (p. 1), and because efforts to distinctly

separate code-switching, code-mixing, and borrowing are often unsuccessful (Eastman, 1992). Additionally, while structural approaches to CS offer insights into the grammatical aspects of this phenomenon, they often fall short in explaining the underlying reasons and motivations for its occurrence (Yankova & Vassileva, 2013).

One part of this study is devoted to exploring the sociolinguistic and pedagogical functions of CS occurrences in teacher talk within an academic medical course in Algeria. Therefore, all instances of CS occurring within this context will be put under investigation. Though, most of the CS in this context happens between French and English which are foreign languages, other instances of CS, though minor, may occur between the native language and the foreign language (Algerian Arabic/French or Algerian Arabic/English). In this research, merely French/English CS, one of the unique cases of CS in pedagogical settings (switching between two foreign languages French and English; the medium of instruction in medical education and the target language), is taken into consideration in addition to the other few instances where CS happens between the foreign language and mother tongue.

2.6 A Typology of Code-Switching

To provide a typological classification of CS instances, we should consider both; the linguistic structural aspects governing the phenomenon (e.g., Poplack, 1980) and the various functions (social, psychological, pragmatic, etc) that it may manifest (e.g., Blom & Gumperz, 1972; Gumperz, 1982; Auer, 1984, 1998). Poplack's (1980) research of Spanish/English switching utterances of Puerto Rican Bilingual speakers born in New York, was the first of her works to adopt the three types of CS; intra-sentential switching (see example (5)), inter-sentential switching (6) and tag switching (as in (7)). The latter consists of incorporating tags or interjections into a particular sentence on condition that, the language from which these tags and interjections are taken, is different from the language in which the sentence is formed. Poplack (1980) regards tag switching as the most easily and the most frequently occurred switching for the reason that; "tags are freely moveable constituents which may be inserted almost anywhere in the sentence without fear of violating any grammatical rule." (p. 589). Intra-sentential switching, however, consists of a sentence formed by linking two parts together; each part is taken from a different language. Therefore, this kind of switching takes place within the same sentence. Unlike the latter switching, inter-sentential switching is a kind of switching that occurs between sentences;

each taken from a different language, thus, it happens at a clause or a sentence boundary as demonstrated in example (6); the title of Poplack's (1980) study.

(5) ¹²*Parmi les symptômes of tinnitus, le bourdonnement de l'oreille* like a buzzing of a bee in one ear ou bien dans les deux oreilles, vertige, insomnia...

(Among the symptoms of tinnitus, ear buzzing like a buzzing of a bee in one ear or in both ears, vertigo (dizziness), insomnia...)

(English/French)

(6) "Sometimes I'll start a sentence in English Y TERMINO EN ESPAÑOL" (Poplack, 1980: 594)

(Sometimes I'll start a sentence in English and finish it in Spanish)

(Spanish/English)

(7) *Vous allez faire l'exercice suivant à la maison, right !*

(You are going to do the following exercise at home, right!)

(English/French)

Poplack (1980) claims that the three types of switching do not occur haphazardly and in a random way, but they are governed by rules. The least governed, as mentioned before, are the tag switches, whereas the most complex type, in terms of rules' conformity, are the intra-sentential switches. As the latter consists of two or more interrelated switched segments taken from (at least) two different languages, and put together in a form of one sentence; one language's grammatical system and rules are hardly kept separated from the other language's system and rules. Therefore, preventing the intrusion of one language in the other, and bridging both languages' constituents together without fear of violating any grammatical rule, is a challenging task.

Poplack (1980) outlines two primary principles intended to regulate code-switching (CS) by capturing its common forms and preserving its distinct characteristics. One principle, called the "Free Morpheme Constraint," states that switches can happen after any linguistic unit except for those involving phonology, as long as the unit is not a bound morpheme (p. 558). Appel and Muysken (1987) support this idea to a degree, asserting that

¹² Example (5) is taken from a preliminary pilot observation conducted in the Language and Communication Institute (LCI) which provides medical courses (for both academic and occupational purposes) to doctors and medical students in Sétif, Algeria.

switching cannot occur between morphemes that are morphologically bound, meaning that such elements are tightly linked and cannot be separated by a switch (p. 127). According to Poplack, this constraint may be overridden if the element is adapted to the phonological system of the recipient language, in which case it would be classified as borrowing rather than CS.

On the other hand, switching elements triggered by the juxtaposition of L1 and L2 may occur at any point in discourse, on condition that these occurrences do not violate any “syntactic rule of either language”. This constraint known as the “Equivalence Constraint” could operate easily if both languages share the same surface structure (Poplack, 1980, p. 586). However, this constraint could be violated if the two languages manifest a distinct syntactic structure, for example, the general rule of adjective placement in French is not the same in English. In French, the adjective is placed after the noun while in English, it is situated before the noun (Consider example (8)). of course, there are exceptions where both languages may demonstrate the same placement.

(8) The patient has experienced *une douleur atroce*...

The patient has experienced an excruciating (severe) pain...

(English/French)

CS constraints may best operate if the bilingual speaker manifests a sophisticated knowledge and competence of both languages’ grammar. In other words, the bilingual speaker, in order to code-switch, is supposed to know how each language maps onto one another in terms of syntactic structures of the two languages (Poplack, 1980). Accordingly, the competent bilingual speaker is capable of deciphering the points where CS is permissible and where it is not. Consequently, Poplack’s (1980) study reveals that the latter speaker exceeds the tag and intra-sentential switching, and most of his code-switching happens at a clause and a sentence level, while the less proficient speaker avoids the latter switching and prefers the single word switching and tag switching for their process is less complex.

Auer (1998) proposes that CS may be divided into two types; discourse-related CS and participant-related CS which is also known as preference-related CS (see section 2.3 Definition of Code-Switching). Discourse-related CS, as previously defined in section (2.3), refers to the use of code-switching to generate interactional meaning with regard to conversational sequences, and how the use of CS participates in the organisation of these sequences as in example (9). The second type, however, refers to the use of CS to generate

meaning with regard to participants' preferences. In this case, it is the speaker and his/her conceptualisation of the situation which determines the choice of language (ibid). Consequently, which code is the one to proceed with in conversation, is left open. In other words, the decision of using one code above the other is in the hands of the participants involved in a conversation (Auer, 1995).

For instance, an Algerian doctor, talking to a patient about his health condition, takes into consideration that the patient will not be able to understand the medical terms and the complex language he is accustomed to use (generally speaking, Algerian doctors use French though the mother tongue is Algerian Arabic). Therefore, through his conceptualisation of the situation, he chooses another code to convey meaning and to keep the flow of conversation with the patient (as a participant in conversation). However, if the same doctor is discussing the health condition of his patient with another doctor, he will choose the code that best fits the new situation, i.e., he would probably use CS between mostly French and few Algerian Arabica (a medical language full of technical terms). Yet, the second condition remains a speculation and the choice of the code is unpredictable, as it is based on the speaker's conceptualisation. Thus, participant-related switching sets behind different motivations and reasons.

(9) Teacher: names of diseases ending in (s) but considered as singular, like?

Students: /silence/

Teacher: *c'est quoi les noms des maladies qui se terminent avec un (s) that are considered as singular?*

(what are the names of diseases ending in (s) that are considered as singular)

Students: measles, rickets, rabies

Student: *diabètes* (pronounced in French)

Teacher: Diabetes (pronouncing it in English) and...*encore deux?*

(still two other names)

Student: mumps?

Teacher: good, and *la dernière* is shingles.

(good, and the last one is shingles)

The above example (9) shows that students did not respond (which was manifested through silence in line 2) to the first attempt of the teacher asking a question in English. Therefore, in order to attract students' attention and to stimulate their thinking and to clarify

any ambiguity within the question, the teacher adjusted the wrong language choice by reformulating the question using code-switching. In this way, the reiterated question contributed in preserving the maintenance of the conversation and in keeping the flow of interaction. Consequently, the “second attempt” (Auer, 1998, p. 5) of the teacher, demonstrated by the use of another code, contributes to the organisation of the conversation by preserving the interactional meaning between the participants (the teacher and the students) and thus, achieving the desired result.

Blom and Gumperz (1972), like many other researchers (e.g., Auer, 1995) who have studies CS in terms of its social and communicative outcomes, assert that there are various motivations and reasons behind switching the code. The study of code-switching that Blom and Gumperz (1972) conducted between two language varieties; standard (Bokmål) and local (Ranamål) in a city in Norway, which investigates the social functions of CS regarding the latter as a social phenomenon, reveals that the speaker makes his choice about which code to use, and the choice he/she makes depends on a set of extra-linguistic factors such as setting (home, school, church, formal or informal settings, etc), social situation which refers to a set of activities practiced by particular people within a particular setting (e.g., teacher at school) and participants. When the choice of code is based on a specific situation, if the latter changes, the choice will shift to another code. In this case, the switching that is triggered by a change in situation is called situational switching (*ibid*) (for the definition of ‘situational switching’ see section 2.3). Blom and Gumperz (1972) assume that there is a one-to-one relationship between the choice of the code a speaker makes and the situation where it occurs. In other words, each situation necessitates a specific code, and thus, only one code is appropriate for a particular situation. Consequently, speakers keep their language choice dependent on the situation.

Blom and Gumperz (1972), in addition to situational switching, introduce another type known as metaphorical switching, which was substituted by conversational switching in later work of Gumperz (1982). Unlike the first type, metaphorical switching is not affected by a change in situation, but rather by the social event that revolves around a range of distinct topics in a particular situation. Thus, metaphorical switching is not compatible with the one-to-one code-situation relationship. Moreover, this switching is concerned with the communicative intent it should achieve and the meaning it needs to convey within a particular situation among particular speakers. Thus, the code choice, in this case, may be

triggered by the change in the topic of conversation, the shift in the tone of the conversation or the fact of emphasising a certain part of the conversation (Nguyen, 2014). In other words, while situational switching is constrained by the situation, metaphorical switching is concerned with the communicative message that a speaker intends to convey. For instance, among the functions that metaphorical switching may manifest is reiteration¹³ (Gumperz, 1982), which consists of repeating what has been said using another code to clarify or to emphasise a message (see example (10)). Metaphorical switching may also convey a communicative meaning through reported speech or quotations (ibid).

(10) Teacher: (reading the exercise and explaining the dialogue between a patient and a doctor)

Well! I keep getting breathlessness and wheezing in my chest, sometimes I cough a lot. (Repeating the sentence in French) *Bon ! j'ai toujours un essoufflement accompagné d'un sifflement dans ma poitrine, des fois je tousse beaucoup.*

Gumperz (1982), ten years later, introduced another term distinct from situational and metaphorical switching, he calls 'conversational switching'. The latter is said to overlap with metaphorical switching, however, it is considered as a discourse strategy, therefore, this type of switching focuses more on the discourse functions of language alternation. Conversational switching is compared to the situation in which two languages or two language varieties are used by speakers of the same community. This language situation is known as diglossia¹⁴ (Nguyen, 2014). The latter can describe the kind of switching Blom and Gumperz (1972) call situational. Yet, conversational switching manifests a more complex process within which speakers are concerned with how to achieve the intended communicative intent through switching. Furthermore, switchers are less concerned with the situation in which a particular code is supposed to take place because they are not aware of

¹³ Gumperz (1982: 75-81) identifies six specific functions of conversational code switching: 1) quotation, 2) addressee specification, 3) interjection, 4) reiteration, 5) message qualification, and 6) personalization vs. objectivization. Further details are elaborated in section (2.6.2) Sociolinguistic Approach to Code-Switching and section (2.7) Functions of Code-Switching.

¹⁴ Ferguson (1959) was the pioneer of the concept "Diglossia" which he used to describe two different varieties of the same language operating each at a time and in a particular situation. Both varieties are controlled by different conditions and used often by speakers belonging to the same community. The two varieties manifest; one which known as "Low Variety" (e.g., Algerian Dialectal Arabic is a low variety) and the other which is considered as "High Variety" (e.g., Modern Standard Arabic and Classical Arabic are High varieties)

which code to use (Gumperz, 1982). Consequently, conversational switching shares some features with metaphorical switching. Gumperz emphasises the fact that conversational functions of CS can be identified only through a thorough analysis of a particular discourse associated to a particular situation (Nguyen, 2014).

The second type departs from Poplack's (1980) notion of alternation. However, Myusken (2000) defines alternation as one clause taken from one language and another clause taken from another language matched together to form a sentence, but none of the clauses' systems and grammars interfere in one another, since the clauses are placed separately in the sentence. Thus, the two languages alternate when the constituents of one language are being replaced by constituents of another language halfway through the sentence. Moreover, as Poplack (1980), Myusken views alternation to be constrained in terms of structural equivalence between the two languages, consequently, alternation is possible only if it does not violate the syntactic structure of either of the languages involved. In this vein, what researchers (e.g., Poplack, 1980) identify as CS, Myusken (2000) refers to as an 'alternational type of code-mixing' (ibid: 4).

"Congruent lexicalization," as described by Muysken (2000), "occurs when two languages share a grammatical structure that can be lexically populated with elements from either language" (p. 6). This means that lexical items or constituents from different languages or language varieties coexist within a unified grammatical framework, allowing elements from both languages to substitute any part of a sentence. In such cases, the shared grammatical structure may be either partially or fully compatible across two or more languages, with language elements interspersed in a seemingly random manner (Muysken, 2000). For instance, in example (11), segments from both English and French appear in the sentence, each following its grammatical system without interfering with the structural integrity of the other parts.

(11) *Tu dois consulter* another doctor because *avoir un autre avis médical* is very important
surtout pour le traitement.

(You need to consult another doctor because having another medical opinion is very important especially for the treatment)

A speaker's selection of one type of code-switching (CS) over another depends not only on the structural aspects of the languages but also on sociolinguistic and psycholinguistic factors influencing this choice (Muysken, 2000). Sociolinguistic factors

impacting the three main patterns—namely, insertion, alternation, and congruent lexicalization—relate to how each serves as a "bilingual strategy" within a multilingual community (p. 8). For example, alternation is more common in "stable bilingual communities," where the two languages coexist without one exerting dominance over the other, keeping each language distinct. In contrast, insertion frequently occurs in communities with a colonial history or in "migrant communities," where an asymmetrical bilingual proficiency exists, often favoring one language over the other (p. 9). In Algeria, for instance, the legacy of French colonial rule has resulted in many French elements becoming part of the local lexicon. Algerians born in France, however, exhibit a reverse form of insertion, incorporating native language elements into French due to a "language dominance shift" (p. 9). Additionally, psycholinguistic factors also influence the choice among insertion, alternation, or congruent lexicalization. These factors include the speaker's bilingual proficiency, the extent to which they monitor both languages, the likelihood of specific items triggering one language over another, and the degree of separation between language storage and retrieval systems (Muysken, 2000, p. 8).

2.7 Approaches to Code-Switching

The long tradition of research on CS phenomena draws on different approaches and different disciplines. Before discussing the different approaches adopted in the study of CS, we should first highlight the transition that CS has undergone. Diachronically speaking, researchers' standpoints about CS have experienced a drastic shift. The latter is manifested through the earlier views which have considered CS as a language impediment and the recent beliefs that this phenomenon may act as an effective communicative strategy. CS, at the beginning of research, was regarded as a linguistically deficient behaviour, and the speaker, who switches from one language to another, was described in terms of his/her lack of competence in one or both languages. This idea has surprisingly been embraced by the so-called fathers of modern linguistics Leonard Bloomfield and Ferdinand De Saussure (Boztepe, 2003).

Over time, perspectives on code-switching (CS) have shifted, with researchers progressively re-evaluating this phenomenon. Originally considered a sign of language deficiency, CS is now recognized as, under certain circumstances, an indicator of proficient bilingual communication. Weinreich (1968) defines an ideal bilingual as someone who adjusts language use in response to changes in the speech context, such as a different

interlocutor or topic, but refrains from switching within a single, stable context or within the same sentence (p. 73). He suggests that certain conditions help distinguish a proficient bilingual from one who is less so, implying that CS behaviors can reflect the speaker's overall bilingual competence. Historically, CS was seen as a hallmark of less fluent bilingualism. This view sparked studies, particularly in the United States (e.g., Fasold, 1975) and internationally (e.g., Bernstein, 1972, 1974), questioning whether switching between languages or dialects was linguistically valid. Such inquiries helped shape the "deficit hypothesis," which framed CS as a language barrier and as an indication of linguistic deficiency in bilingual speech (Boztepe, 2003).

Research on code-switching (CS) reflects a variety of interests and perspectives, each aiming to explain this phenomenon according to its unique focus and methodology. Researchers have adopted numerous approaches in the study of CS, with a primary distinction between the linguistic approach, which examines CS through its structural aspects, and the sociolinguistic approach, which investigates the social meanings CS may convey. Additional perspectives have also emerged, either as standalone approaches, such as the psycholinguistic approach, or as sub-approaches that incorporate elements from broader frameworks, including the pragmatic, conversational, sociocultural, and pedagogical approaches. Together, these varied approaches have contributed valuable insights, helping to shape a comprehensive theory of bilingual speech (Boztepe, 2003). For a thorough explanation of language contact phenomena, researchers are encouraged to consider "purely structural aspects, psychological motivations, and socio-cultural factors," suggesting the value of an interdisciplinary approach (Weinreich, 1953, as cited in Isurin et al., 2009, p. IX).

Even though some of the above-mentioned approaches do not directly trace the line of enquiry in this research, it is still important to briefly discuss the effect of these approaches on both; research on CS in general and the emergence of more recent approaches in particular. Therefore, the following sub-sections will highlight the different approaches to the study of CS with a special reference to and a special focus on the approaches adopted in this investigation.

2.7.1 Linguistic (Structural) Approach

Linguists set different theoretical models as an attempt to describe the structural aspects of CS and to identify the grammatical constraints governing this phenomenon during

the shift from one language to another (Isurin et al, 2009). Hence, the linguistic approach is mainly concerned with the linguistic characteristics of CS, for instance, the structural forms that CS may manifest at all the structural levels of language; from a morpheme level to a sentence and beyond a sentence level, in addition to the phonological and morphosyntactic constraints underlying these forms. Therefore, one of the main focuses of this approach is to explain how two different grammars and two different structures can be combined and put together in one switching form, how these forms can occur in a rule-governed and a systematic way and how can the morphological and the syntactic constraints control and facilitate such switching.

Many researchers (Pfaff, 1979; Poplack, 1980; Myers-Scotton, 1992; Myusken, 2000) have followed a linguistic approach in their studies on CS as an attempt to provide enough data that would best explicate this phenomenon in terms of its structural linguistic aspects. As we have seen before, Poplack's (1980) work on CS is one of the pioneering studies in this field. She provided a typology of CS based on the level and kind of integration of the switching constituents in the recipient language. She also identified two grammatical constraints; the free morpheme constraint and the equivalence constraint. These constraints reveal that CS is not a random but a conscious and a rule-governed phenomenon (see section 2.4.2 and 2.5). Myusken (2000), on the other hand, provided a typology based on which CS (he calls code-mixing) manifests three types; insertion, alternation and congruent lexicalisation. This typology depends on the structural integration of language constituents into the base language.

Myers-Scotton (1992, 1993, 1998) has significantly advanced the field of code-switching (CS) research, particularly within the structural approach, following the work of earlier scholars like Poplack (1980) and Joshi (1985). In her framework, Myers-Scotton (1993) emphasizes the importance of asymmetry as a core principle governing the interaction between languages in bilingual or multilingual expressions. This concept of asymmetry denotes a "structural imbalance in bilingual data, whether in abstract terms or during production and processing" (Myers-Scotton & Jake, 2009, p. 209). In other words, asymmetry implies that one language takes a dominant role, establishing the morphosyntactic framework and word order within a code-switched utterance. This leads to a hierarchy where code-switching is organized by two primary roles: the Matrix Language, which provides the structural foundation, and the Embedded Language, which contributes elements within this framework. Together, this structural dichotomy and the principle of

asymmetry form the foundation of Myers-Scotton's Matrix Language Frame (MLF) Model (1992).

As we have discussed before, Myers-Scotton (1993), in her (MLF) model, disapproves the distinction between CS and borrowing with regard to the morphosyntactic integration of language constituents (the idea of Poplack, 1980). She rather considers both phenomena as part of the same continuum operating under the same process (ibid). Hence, Myers-Scotton (1992, 1993a), unlike Poplack (1980) and others, did not exclude the category of lexical borrowing from the general analysis of CS (see section 2.4.2). Furthermore, the code-switched utterances which manifest a combination of at least two languages, are governed by a matrix language (ML) supplying the 'abstract grammatical frame', thus playing a dominant role, and an embedded language (EL) in which the insertion is made and which performs a secondary restricted role manifested in providing certain content morphemes to the switched utterances (Myers-Scotton & Jake, 2001). Consequently, the matrix language is recognised in terms of the number of morphemes it provides to a switched utterance, i.e. a switching form is constituted by a large number of ML elements and few EL content words (Myers-Scotton, 1993a).

The Matrix Language Frame (MLF) model is specifically designed to address only intra-sentential code-switching, which Myers-Scotton (2006) terms "classic code-switching." In contrast, inter-sentential CS, involving switches between sentences, is analyzed with a focus on its social and communicative functions (Myers-Scotton, 1993b). In defining classic code-switching, Myers-Scotton (2006) explains that it involves elements from two or more language varieties within a single clause, but only one language provides the morphosyntactic structure for that clause (p. 241). This means that in classic CS, the primary grammatical framework is established by one dominant language, guiding the clause's overall structure (ibid).

In summary, Myers-Scotton's (1992, 1993) linguistic approach to code-switching (CS) seeks to understand how two languages structurally integrate within a code-switched utterance and to identify the grammatical rules that shape this process. Her research led to the development of the Matrix Language Frame (MLF) model, which is based on three core principles. The first principle highlights an asymmetrical relationship between the Matrix Language (ML) and the Embedded Language (EL), with the ML primarily determining the grammatical structure of the switch. The second principle focuses on the type and amount of morphemes that can originate from each language in a code-switched form. The

"morpheme order principle" states that the ML dictates word order, while the "system morpheme principle" specifies that all functional morphemes (e.g., articles, inflections) come from the ML, though content morphemes like nouns and verb stems may come from the EL (Myers-Scotton, 2006, p. 244). Finally, the third tenet indicates that, although both ML and EL are active during CS, the ML plays a dominant role in structuring the utterance (ibid).

Although Myers-Scotton's work (1992, 1993, 2002, 2006) has significantly advanced the understanding of code-switching (CS), particularly by highlighting linguistic features and the asymmetry between two languages in code-switched utterances, her Matrix Language Frame (MLF) model has faced criticism. Some researchers, including Bentahila (1995), Gardner-Chloros (2009), and Muysken (2000), have expressed doubts about certain aspects of her model. For example, Bentahila (1995), drawing on his analysis of Moroccan Arabic/French data, questions the universality of the MLF model, suggesting that while it contributes to understanding CS, "it seems tailored to a specific type of discourse and does not equally accommodate patterns observed in other communities" (p. 140). Gardner-Chloros (1991, as cited in Gardner-Chloros, 2009) also critiques the model, arguing that identifying a matrix language across extensive language stretches can be challenging, making the matrix language concept less effective as a descriptive tool (p. 47). Similarly, both Bentahila (1995) and Muysken (2000) note that the criteria for identifying the matrix and embedded languages within an utterance are sometimes vague or misleading. Muysken (2000) adds that recognizing the Matrix Language is complicated due to a persistent asymmetry between the ML and the embedded language (p. 16).

2.7.2 Sociolinguistic Approach

Code-switching (CS), which results from the contact of languages in bilingual and multilingual communities, is widely recognized as a social norm. Early sociolinguistic studies, such as those by Blom and Gumperz (1972), aimed to uncover the social meanings of CS and its connection to specific contexts. Central themes in this research include the social triggers for switching, the motivations behind it, and the conditions shaping CS occurrences (Boztepe, 2003; Deckrow, 2005). Although initial studies emphasized the social aspects of CS, later work by scholars like Myers-Scotton (1998) and Gardner-Chloros (2009) integrates both structural and sociolinguistic perspectives, arguing that these approaches are

complementary; sociolinguistic factors often influence the structural patterns observed in CS.

One of the ground-breaking studies that traced the preliminary lines in sociolinguistic research of CS is dated back to Blom and Gumperz (1972). Unlike many researchers, the latter were not obsessed with the structural patterns of this phenomenon, they were rather concerned with the social meaning that could be retrieved from these structural patterns and the social constraints that may determine the choice of code. Their study resulted in a number of factors influencing the speaker's choice of alternating or shifting from one code to another. These extra-linguistic factors, for instance; the setting, the change in situation or topic and the speech events, determine the social functions of CS. Therefore, CS may manifest a situational function or a metaphorical (conversational) function (see section 2.3 and 2.5).

Gumperz (1982), in his study, focuses on the different social functions that can be realised via different language varieties occurring in a speech community, and how these functions can be explained in terms of speakers' orientations and their communicative intentions, the situation and the setting where an exchange of speech or a conversation takes place. Another outcome of his work (1982) is the dichotomy of 'we code' and 'they code'. These notions have emerged out of a diglossic situation where an asymmetric occurrence of two languages or two language varieties is manifested via a minority language used by a group of people sharing the same interest and identity, thus the 'we code' is used in situations indicating closeness and in informal activities. Whereas, 'they code' denotes the majority language which is used by the out-group in more formal practices and in situations of distance (Gumperz, 1982, p.66). However, a one-to-one relationship between a particular code and a specific social context is a typical one and occurs only in very limited situations. Hence, a switching utterance may be formed by 'we-code' and 'they-code' to express specific functions within a conversation. furthermore, when 'we code' situations overlap 'they code' situations, switching the two codes appears to be the only favourable choice (ibid).

Gumperz (1982) provided a concrete example of the Latin ethnic minority he observed. His study revealed that the Spanish community in the United States uses two different codes; Spanish as 'we code' which is regarded as the ethnically specific minority language and English as 'they code' which has a more general status. Therefore, people in

this speech community may switch between Spanish and English to mark a shift from an in-group ethnically specific talk to a more formal distant out-group talk (ibid).

A similar contribution to sociolinguistic research on CS is made by Myers-Scotton (1983, 1993, 1998). The latter (1993) investigated the social motivations behind CS occurrences providing concrete examples from Africa¹⁵. Her study (1983) resulted in the formulation of the 'Markedness Model' based on Grice's (1975) 'Cooperative Principle'¹⁶. Myers-Scotton (1983) shares the same belief as Gumperz (1982) that the choice of code a speaker makes is dependent on a set of extra-linguistic factors like situation, setting, topic and participants. However, the speech behaviour, in this case, is explained in terms of its contribution to the interactional meaning of a conversation and thus signals the speaker's understanding of a particular situation.

Myers-Scotton's (1983) markedness model examines how social, individual, and conversational factors shape code choices and the motivations behind them. In bilingual or multilingual communities, where multiple language codes are prevalent, each code is linked to specific social roles, known as "rights and obligations" (RO) sets. When speakers navigate these roles, they select codes that convey their intentions and objectives. Using an "unmarked" (or expected) code choice reflects a speaker's alignment with the customary rights and obligations of a situation. In contrast, a "marked" (or unexpected) code choice may indicate an attempt to redefine these social roles (Myers-Scotton, 1983). In essence, speakers view code choices as either unmarked or marked relative to community norms. Myers-Scotton (1993) also highlights that a shared understanding of the social meanings of each code is essential; without such common knowledge, the interpretation of code choices is hindered.

For instance, in an EFL classroom in Algeria, students tend to greet their teacher in English by saying: "Hi Sir/Miss, how are you?", because they are learning English, they are

¹⁵ Myers-Scotton's (1993) book: *Social Motivations for Codeswitching: Evidence from Africa*, based on the analysis of a set of conversations occurring in Kenya, presents the final fully-refined model that she calls the Markedness Model. Prior to the publication of this book (1993), the Markedness Model has been discussed in a number of her previous works (1972, 1976, 1983) and has influenced much of subsequent work (Nilep, 2006).

¹⁶ Grice's (1975, p. 41-52) 'Cooperative Principle' is explained in terms of a set of maxims that contribute to the interactional meaning of a conversation. a speaker's intention to convey a communicative meaning can be achieved if he/she is being informative, truthful, relevant, concise and clear in what he/she says.

supposed to use it inside the classroom, thus it is a predictable code choice. In this case, it is the unmarked code choice which manifests a conformity with the norms of the social (pedagogical) situation. However, many students choose another code and prefer to greet their teacher in Arabic by saying “Asalamu 3alaikum” (may peace be upon you). This code choice is regarded as a marked choice (unpredictable choice) simply because it does not comply with the speech situation, however students, via Arabic greetings, want to emphasise their Muslim Arabic identity. But, if the situation changes and a student uses English greetings with classmates outside the classroom, in this case the English greeting becomes the marked code choice and may express a kind of ‘we-solidarity’ between the students who are learning English.

Myers-Scotton's (1983) markedness model has been subject to criticism from various researchers. Auer (1995) suggests that empirical studies have struggled to demonstrate a clear link between specific languages and corresponding speech activities (Al Makoshi, 2014). The model is also criticized for its reliance on assumptions about speakers' understanding and beliefs, which are considered external knowledge (Nilep, 2006). Auer (1998) adds that interpreting code-switching data is complicated by the substantial amount of context that must be considered. Meeuwis and Blommaert (1994) argue that the model's views on "indexicality and social behaviour" (Boztepe, 2003) are oversimplified and misleading, as they frame speakers' actions as either conforming or not conforming to predetermined social norms. Furthermore, they point out that the model overlooks diachronic changes in speech communities, focusing solely on synchronic aspects (Boztepe, 2003). In response to these critiques and the limited data on which the model is based, Myers-Scotton has significantly revised her work to address its shortcomings and adapt it to include new dimensions, such as contact linguistics (Myers-Scotton, 1998). Despite the criticism, Nilep (2006) acknowledges that the markedness model remains one of the most influential and comprehensive frameworks for understanding code-switching motivations.

Unlike linguistic approaches which regard CS as a grammatical system operating in terms of a set of rules and constraints, sociolinguistic analyses scrutinise this phenomenon with regard to extra-linguistic factors, for instance, the social conditions governing code choice (Blom & Gumperz, 1972; Gumperz, 1982), the socio-cultural motivations underlying CS occurrences (Gumperz, 1982; Milroy & Myusken, 1995) and even psycho-social considerations determining the individual speech behaviour (Myers-Scotton's Markedness Model: 1983, 1993, 1998). As a matter of fact, the Sociolinguistic approach paved the way

for the emergence of many other sub-approaches and streams (socio-cultural, social psychological, conversational approaches) in the analysis of CS. Wei (1998) sums up the different sociolinguistic dimensions of CS analysis highlighting their contribution to understanding and interpreting speakers' language choices.

2.7.3 Conversational Approach

The conversational approach to CS is scattered between different views and beliefs. This approach can be conceived as a continuum holding the old sociolinguistic views (Gumperz, 1982) and the new conversational beliefs of CS (Auer, 1984, 1995, 1998). Both, conversational and sociolinguistic approaches have begun their course through fundamental questions like why do people code-switch? What does this CS serve? And what motivations lie behind this practice? however, the answers that each approach has reached, form the underlying deviation between the two approaches. Sociolinguistic studies (Gumperz, 1982; Myers-Scotton, 1993) of CS believe that there is an embedded social meaning in each code, thus CS can be explained in terms of the different social motivations that trigger such use (see section 2.6.2). Conversational studies (Auer, 1984, 1995, 1998), on the other hand, view CS in terms of the interactional meaning that can be generated from a sequential development of conversation. Therefore, most of the studies investigating the relationship between CS and the sequential development of talk in interaction have adopted a conversation analysis¹⁷ (CA) framework.

One of the pioneering studies on interactional talk is Gumperz's (1982) work, which examined the role of contextualization cues in shaping the communicative meaning of conversations, particularly within shared cultural contexts. In bilingual communities, code-switching (CS) serves various conversational functions and acts as a "dynamic process" (ibid: 131) that enhances the interpretation of interactions. Gumperz (1982) identifies CS as a contextualization cue, arguing that it conveys contextual information similar to prosody,

¹⁷ Conversation Analysis (CA) is a research tradition rooted in ethnomethodology, associated with sociologists such as Harvey Sacks, Emmanuel Schegloff, and Gail Jefferson. It focuses on studying the social structure of natural conversations, often called talk-in-interaction. Conversation analysts examine topics such as how talk is organized sequentially, the mechanisms of turn-taking, and methods used by participants to identify and resolve communication issues (Richards & Schmidt, 2002, p. 122).

syntax, or lexical choices in monolingual settings, thereby influencing how conversation content is interpreted (p. 98). Thus, CS is a conversational strategy used by participants to communicate intended meaning and interpret it based on social factors (Gumperz, 1982). Instances of CS, whether adhering to or deviating from social norms (Gafaranga, 2007, p. 287), are explained through situational and metaphorical CS, as well as the notions of "we code" and "they code".

Despite the fact that many researchers (Gumperz, 1982; Myers-Scotton, 1983, 1988, 1993) have been acknowledged for tracing the first lines of conversational approach to CS and for paving the way to a more specific in-depth investigation about the role of this language contact phenomenon and its contribution to the interactional meaning in a conversation, Auer's (1984, 1995, 1998) research on CS is regarded as a cornerstone of conversation-analytic approaches to CS studies.

Unlike Gumperz (1982) and Myers-Scotton (1993), who view code-switching (CS) as a conversational strategy influenced by social identity and "macro-societal values" (Gafaranga, 2007, p. 296), Auer's (1984, 1995, 1998) sequential analysis and "organizational explanation" of language alternation (his term for CS) challenges the notion that CS is solely socially motivated. Auer argues that attributing CS to external factors, such as participants' relationships, situational context, or speaker identity, provides only a partial understanding, as intended meanings may not always be conveyed as assumed (Wei, 2005). In response, the conversational-analytic approach emphasizes a micro-level analysis, focusing on the sequential construction of meaning in interaction, rather than broader societal values. This approach highlights how meaning develops through conversation, treating CS itself as a significant interactional tool, rather than focusing on the broader social meanings attributed to code-switching speakers.

Auer's (1984, 1998) contribution to code-switching (CS) research emphasizes the "local organization of bilingual conversation" (Gafaranga, 2007, p. 297), adopting a Conversation Analysis (CA) framework. This approach is well-suited for analyzing "the sequential implicativeness of language choice in conversation," meaning that any language choice made by a participant influences subsequent choices by the same or other speakers (Auer, 1984, p. 5). Conversation Analysis primarily focuses on the interactionally negotiated meaning among participants as they take turns in conversation. Thus, language choice and language alternation are understood not through speakers' intentions but through the participants' shared understanding of their linguistic behavior. One key advantage of

applying CA to CS is that it does not rely on subjective mental interpretations but instead examines CS as an observable feature of participants' behavior, clarifying how it contributes to the meaning of the interaction .

Auer's (1984) sequential analysis of code-switching (CS) led to two categories: discourse-related CS and participant-related CS (see sections 2.3 and 2.5). He distinguishes between these types by asking whether language alternation provides cues for organizing the ongoing interaction (discourse-related) or reflects attributes of the participants (participant-related) (Auer, 1988, p. 158). Auer also introduced the concept of preference, a key idea in conversation analysis, which refers to the structural properties of conversation (Gafaranga, 2007, p. 298). He used this concept to define preference-related CS, arguing that the preferred choice is when speakers maintain the same language across sequential turns. If a different language is used in a subsequent turn, it becomes a dispreferred choice. Therefore, alternating between languages is viewed as a divergence from the preferred language choice, as Auer (1988, p. 137) notes: "code-switching from this perspective is conceptualized as a divergence from the language of the prior turn." Auer's (1984) research showed that participants typically prefer to continue using the language of the preceding turn, while instances of language alternation often signal a shift to close a sequence or introduce new meanings. Moreover, preference-related CS may also reflect specific participant attributes or intentions.

Auer's (1984) approach raises several ambiguities in Gumperz's (1982) conversational model. Auer's primary criticism targets the rigid "one-to-one relationship between language choice and social situation." He argues that this characterization is overly deterministic, likening Gumperz's defined situation to a "cage" from which speakers cannot escape once entered (Auer, 1984, p. 90). According to Auer, this relationship oversimplifies naturally occurring conversations, as language choice is not fixed by the situation but rather shaped by speakers' interactions. He also challenges Gumperz's situational and metaphorical distinction, suggesting it should be replaced with a continuum (see sections 2.3 and 2.5). Despite these criticisms, Auer (1984) acknowledges Gumperz's contribution to CS research, particularly regarding the interactional meaning of conversational CS. He credits Gumperz for introducing the idea that CS generates meaning, which laid the foundation for more nuanced semantic approaches.

Despite its valuable contributions, the conversation-analytic approach to code-switching (CS) has faced criticism. The same critique it directed towards other approaches,

such as sociolinguistic and semantic, can be applied in reverse. While conversation analysts (Wei, 2005) argue that the sociolinguistic approach overlooks important interactional data by focusing on extra-linguistic factors, proponents of the sociolinguistic perspective may argue that the conversation-analytic approach neglects social and cultural factors that are essential for understanding language choice and alternation. Additionally, not all CS occurs in interactive settings. For example, a lecturer may deliver an entire lecture without direct interaction, making the intended meaning less observable without checking for student comprehension. Researchers who have focused exclusively on conversation analysis, excluding "ethnographic or macro-sociological evidence" (Stroud, 1998, p. 322), have produced incomplete understandings of CS. Stroud (1998) further argues that "conversational code-switching is so heavily implicated in social life that it cannot really be understood apart from an understanding of social phenomena" (p. 322).

2.7.4 Pedagogical Approach

A large amount of research which focused on the linguistic aspects (e.g., Poplack, 1980), the socio-cultural motivations and the psycholinguistic factors of CS (e.g., Gumperz, 1982; Myers-Scotton, 1993), investigated this phenomenon in authentic and naturally occurring contexts. Most of the researchers (Auer, 1984, 1998; Blom & Gumperz, 1972; Gafaranga, 2007; Gumperz, 1982; Myers-Scotton, 1992, 1993; Myusken, 1995; Poplack, 1980; Wei, 1995, etc) have examined the spoken discourse of bilingual and/or multilingual individuals in different bilingual and/or multilingual communities (a great deal of research was conducted on migrant communities). Yet, the language classroom setting turned to be a prominent nurturing environment of this language contact phenomenon and the latter turned to be a pedagogical practice of both; teachers and learners, thus, analysing CS in such a context became an appeal to many other researchers (e.g., Gil, 2007; Martin-Jones, 1995; Macaro, 2001; Üstünel & Seedhouse, 2005). As a consequence, the pedagogical context in which CS is researched began to be recognised as a naturally occurring context and the (foreign) language classroom as a social group (Sert, 2005).

Research on CS in EFL (and ESL) classroom contexts has drawn on different linguistic, sociolinguistic and psycholinguistic approaches and has adopted different methods of analysis, be it discourse analysis or conversation analysis. These different angles of analysis generated different socio-cultural psycholinguistic and pedagogical implications of CS in EFL classrooms. The fact that CS is being recognised as a natural and an inevitable

manifestation of both teachers and students' speech behaviour, and the shift in views and opinions from regarding CS as an impediment to considering it as an effective communicative strategy and embracing its use in the EFL classroom, all of which has paved the way for more empirical studies to examine and to set evidence of the effectiveness or the negative impact of CS in pedagogical contexts.

Research on CS in ESL and EFL language classrooms has been divided into two stances. The earlier works on CS were based on the traditional belief that the use of the mother tongue or L1 in language classrooms may hinder the process of learning and may hold a negative impact on learners (Ellis, 1994; Wong-Fillmore, 1985). A gradual change in this stance appeared to hold new moderate view concerning the use of CS in the language classroom. Some of the researchers (e.g., Chaudron, 1988) begin to recognise the effective role of L1 in the language classroom, however the claims that CS is a sword with two edges, if excessively used it may cancel the class benefits and may turn to an impediment. Therefore, CS should be wisely used and teachers should be aware of its outcome. The second stance emerged out of sociolinguistics and pragmatic approaches. Both; the former and the latter introduced CS as a communicative and a pedagogical strategy. Therefore, the second stance supported this view and conducted a large amount of research (Badrul & Kamaruzaman, 2009; Cook, 2001; Flyman-Mattsson & Burenhult, 1999; Greggio & Gil, 2007; Horasan, 2014; Macaro, 2001; Seidlitz, 2003, etc) based on this premise.

2.8 Functions of Code-Switching

Functions of CS have been discussed differently by a large number of researchers (e.g. Gumperz, 1982, 1996; Myer-Scotton, 1993; Auer, 2002; Sert, 2005; etc) based on diverse disciplines and perspectives like the sociolinguistic, the pragmatic, the psycholinguistic and the pedagogical ones. All of which occurred in different speech contexts. The first attempts of looking at and trying to describe the different functions of CS are dated back to the earlier works on bilingualism and language contact phenomena. Fishman (1965) is one of first researchers who conducted a descriptive study based on a crucial question of “who speaks what language to whom and when?”.

The prominent studies and researches on the phenomenon of CS and its functions resulted in many theoretical frameworks, describing the different roles and functions of CS in multiple speech communities and in different contextual situations; from society to groups to pedagogical settings to individuals. One of the most acknowledged works in this premise

is the one of Gumperz (1982), that traces the six conversational functions of CS, after his analysis of Hindi-English, Spanish-English and Slovenian-German that were drawn from different communities.

Gumperz (1982, pp. 75-81) identified six conversational functions of code-switching (CS): (1) quotation, involving either direct or reported speech; (2) addressee specification, where CS is used to signal different potential addressees; (3) interjection, used as a filler within sentences; (4) reiteration, where code-switching serves to repeat or reformulate a message from one code to another to amplify, clarify, or emphasize information; (5) message qualification, where a code-switched segment elaborates on what has been previously said (Chan, 2005, p. 2); and (6) personalization versus objectivization, where the code-switch conveys either a personal or objective tone (Chan, 2005, p. 2).

2.9 Rational for Approach and Model Choice

In higher education, different disciplines exhibit varying types and levels of spoken academic discourse. Factors such as class size, level of instruction and proficiency, course content and time allocation for a subject can all influence the nature of classroom interaction. For instance, Chang (2012) found that spoken discourse in soft sciences (e.g., social sciences, foreign languages) tends to be more dialogic, involving active interaction between teachers and students. In contrast, discourse in hard sciences (e.g., medicine, chemistry) is often more monologic, with instructors holding the floor while students par passive listners and receivers of information.

Due to the limited corpus, which constrains the use of a Conversation Analytic (CA) approach to code-switching (CS), this study instead focuses on a functional analysis of the discourse analytic approach. Specifically, the researcher aims to explore both pedagogical and non-pedagogical functions of teachers' CS in an academic medical course, as well as the reasons behind their use of CS. Additionally, this study investigates how medical learners perceive the use of CS and how does this phenomenon impact their learning process. This thorough analysis will provide valuable insights that benefit various stakeholders, including EMP teachers, learners, researchers, curriculum developers, and language policymakers.

Due to the complexity of the multilingual context adopted in this research, the challenging (medical) content gathered for the analysis in addition to the languages employed by both teachers and students (English, French, Arabic and Algerian Arabic) made

the researcher hesitant whether to adopt a model or a framework for analysis. Therefore, she, based on different factors, decided to adopt as an initial framework for analysis Gumperz's (1982) semantic model, however, during the course of analysis she remains open to incorporate other approaches if they provide further insights beyond Gumperz's model.

2.10 Conclusion

The current study provides a comprehensive overview of the phenomenon of code-switching (CS), exploring its definitions, typologies, and the theoretical approaches that seek to explain it. Starting with the context of bilingualism and multilingualism, the study delves into various debates regarding the distinctions between CS, code-mixing, and borrowing, highlighting the complexity of these language phenomena. A typology of CS was provided, distinguishing between intra-sentential, inter-sentential, and tag-switching, among others. The study also reviewed several theoretical approaches, including the structural, sociolinguistic, and pedagogical perspectives, which are critical for understanding how and why CS occurs in different contexts. The significance of this study lies in its contribution to understanding code-switching not merely as a linguistic curiosity but as a tool of considerable communicative power, especially in multilingual settings like Algeria. By examining the different functions and pedagogical applications of CS, the study sheds light on its role in enhancing communication, bridging linguistic gaps, and supporting the educational process. This is particularly evident in its analysis of how CS can be utilized to facilitate learning and convey complex information more effectively within academic environments, notably in EMP courses. The insights gathered are relevant for educators, sociolinguists, and policymakers interested in optimizing educational outcomes in multilingual contexts.

CHAPTER THREE

RESEARCH METHODOLOGY

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3.1 Introduction

Chapter three of research methodology is set after the theoretical chapters to outline the overall research design adopted in this study. Accordingly, to explore the research purposes and to achieve the objectives mentioned earlier, it is indispensable to provide a detailed chapter that discusses the research design, the context of the investigation, the choice of the population and the adopted methodological instruments. This study explores the impact and use of English/French code-switching in English for Medical Purposes (EMP) courses, particularly among pharmacy students. The methodology is designed to examine participants' views and attitudes through a mixed-methods approach. The latter combines both quantitative and qualitative methods to provide an in-depth analysis and a profound understanding of Code-switching practices. Of course, the procedures and means of data collection and analysis are discussed thoroughly in this chapter.

The structure of chapter three begins by describing the research design and the mixed-methods approach adopted for this study. Then, it provides an overview of the participants and the sampling methods used to ensure representativeness. The following sections outline the instruments and procedures used for data collection, namely; classroom observations, questionnaires, semi-structured interview, focus group discussion. Besides, recordings, collection and analysis of teachers' discourses gathered from ten EMP sessions are also referred to in this part. Additionally, to ensure consistent and transparent research practices, limitations and delimitations are also highlighted as part of research methodology. Finally, chapter three ends with a summary of how data were analyzed, highlighting the tools and methods used to interpret the findings.

3.2 Research Design

This study aims to investigate; from one side, the teachers' and students' attitudes towards English/French code-switching in EMP education, and from the other side, the different pedagogical and non-pedagogical functions this phenomenon reveals inside the classroom. Therefore, the research is based on a case study from the university of Sétif 1,

encompassing six EMP instructors and 162 pharmacy students from the faculty of medicine.

A case study, as the name suggests, refers to a research design which involves an in-depth investigation of a specific case in a particular context. This approach is useful for gaining an in depth understanding of a particular phenomenon, and is commonly used in fields like social sciences and education. Results generated from case studies may identify patterns, develop theories, and provide a better understanding of complex issues (Yin, 2014). Generally speaking, case studies hold a qualitative value and approach, however, integrating mixed-methods approach within this design may add to the value of the research outcomes. Through combining qualitative and quantitative methods for data collection and analysis, the case study can provide a full image that neither approach could offer on its own. The qualitative data, such as observations, interviews and focus groups can reveal deep contextual insights into participants' experiences and perceptions (Creswell, 2011). On the other hand, quantitative data, such as questionnaires, provide measurable and generalizable aspects that strengthen the findings' reliability. Combining these methods allows researchers to achieve triangulation, where data gathered from qualitative and quantitative sources corroborate the results and therefore, boosting the study's credibility (Bryman, 2006).

As far as this research is concerned, a mixed-methods case study integrating both qualitative and quantitative methods for data collection and analysis, is adapted. This approach helps to cross-check and to cross-validate the obtained results, permitting the researcher to elaborate a clear view and a more comprehensive understanding of instructors' and learners' attitudes and behaviors toward code-switching in EMP classroom. The mixed-methods approach helps in reflecting on the pedagogical and the non-pedagogical functional roles of this strategy within a multilingual context. Besides, and through combining these analyses, the researcher can reach conclusions that not only explain the attitudes and functions but also explore the reasons and context behind using English/French code-switching in EMP instruction. This leads to a strong, well-rounded understanding of the phenomenon of code-switching in the field of examination. Likewise,

through triangulation, the researcher can draw on deeper insights and more relevant code-switching implications to similar contexts.

The researcher attempts to investigate the problematic issue and to explore the hypotheses set above through the following steps:

- The study depends on a variety of data collection tools which qualitatively and quantitatively approaches the research questions and hypotheses.
- The research made use of classroom observation, teachers' questionnaire, students' questionnaire, a focus group discussion and a discourse analysis of recorded EMP sessions. The researcher emphasizes an equally significant importance of all the instruments used to collect and analyze data.
- The research design is divided into three phases following a sequential logical order. Phase one is an exploration phase which provides a general overview of EMP classroom practices and the teaching/learning climate. During this phase classroom observation is used to collect the primary data concerning the use of English/French code-switching in EMP course.
- Phase two, is the explanatory process that combines, simultaneously, the quantitative and qualitative data collection stage. Though the intention of the researcher has established a concurrent data collection objective, since she planned to distribute the questionnaires, in the meanwhile she intended to conduct a semi-structured interview and a focus group discussion, this could not be possible for a number of reasons. Time constraints, availability of subject participants, time schedules of EMP courses and other constraints, have pushed the researcher to follow a step by step data collection procedure. In other words, once she completed a step, she moved to the next. For instance, she distributed the questionnaires, provided participants a week to respond back, once she got back the answers, she planned the focus group discussion.
- Phase three of discourse analysis, is a complementary step which revolves around qualitative data. The researcher has to attend and record twelve EMP sessions, during the first semester, to gather the necessary data making the analysis of the teachers' discourse consistent and applicable. However, due to

administrative matters, changes in recruitments as well as the nature of the course content, the researcher contented by ten sessions forming the overall corpus for discourse analysis phase.

- The final phase of data analysis combines the three data collection phases. Accordingly, the researcher employed statistical and thematic tools to analyze and interpret data. Eventually, based on a triangulation process, she draws upon quantitative and qualitative findings to answer the research inquiries and to provide a holistic understanding of code-switching in terms of attitudes, roles and implications.

3.3 Research Context

The present research was conducted in the department of pharmacy from the faculty of Medicine in the university of Sétif 1, Algeria. Although the faculty of medicine is made up of three departments, namely; department of medicine, department of dentistry and department of pharmacy, the researcher chose to conduct her investigation in the department of pharmacy.

In the three departments, education is, formally, held in French (more casually Arabic/French code-switching is present in talk and conversation of the medical staff), the latter kept as the medium of instruction in this field, despite the political and educational reforms. In other words, French holds a significantly equal status in all medical departments. However, the English for Medical Purposes course, was not yet introduced in the department of medicine, which means, students from this department had no EMP course at the time of this inquiry, this is why this department was excluded from the research.

As far as the choice of departments is concerned, the researcher, at first, attempted to conduct the study with both; pharmacy and dentistry students, however and through exploring the department of dentistry, the nature of EMP course and the schedule as well as the EMP teacher, all of which made her face a number of constraints and obstacles within this context. First, the EMP course, in the department of dentistry, is sort of a lecture and

not a *TD* session, which means that students from second year dentistry attend altogether a common session in the amphitheater. Second, the attendance of the EMP course is not compulsory, and since it is scheduled on Thursday afternoon, only a bunch of (less than 20) students were attending the course. Third, the teaching method and content was not based on a content-based instruction (CBI) and since the instructor did not refer much to the medical field, students were demotivated and had no interest to learn EMP. Henceforth, the researcher decided to exclude the department of dentistry from this investigation, keeping the best representative among the three, the department of pharmacy.

The choice of pharmacy department was the most adequate for this inquiry due to a number of reasons. First, the EMP course, unlike in dentistry field, is a sort of *TD* session where the presence of students is obligatory. pharmacy students were divided into six groups attending six sessions of EMP per week, and each session encompasses, at most, 45 students. second, the time scheduled for EMP course is two hours per week, at morning, which means that two groups were successively having an EMP course from 8 a.m. to 12 o'clock per day. Furthermore, there were two EMP teachers in the department of pharmacy, each of whom was teaching three groups. In the mid of semester, a newly recruited teacher joined the department as a full-time instructor, which led one of the previous teachers (a part-time teacher) to leave the department. The course was delivered, by two teachers, through CBI where they relied heavily on the medical content to teach English. Eventually, code-switching was highly witnessed among teachers and pharmacy students as a recurrent practice in this course. This and the overall situation highlighted above made a perfect case for this investigation.

3.4 Research Participants

As stated above, the research participants are taken from the faculty of medicine, university of Sétif 1. The study involved 162 pharmacy students and six EMP teachers from different departments. Participants were selected using simple random sampling. Students varied in their English proficiency levels, and teachers had diverse teaching experiences in EMP. More details about the subject participants are to be mentioned in the coming section.

3.4.1 Profile of Students

Pharmacy students, which form the student subjects for this enquiry are 128 female participants and 34 male participants, a total of 162 from second year pharmacy department. The majority of the sample population is aged between 18 years old and 22 years old. A small percentage of them aged between 22 and 25 whereas only two subject participants are above 25 years old. While the majority of participants are from the wilaya of Sétif, some of the students came from other wilayas to study pharmacy in the faculty of Sétif, namely Msila, Batna and Bejaia. In the latter, where no pharmacy branch was available, bachelors who had the qualification and possibility to access pharmacy department, enrolled their inscription to study in Sétif 1 university. Therefore, a large number of students are Berber. Accordingly, and while the majority are Arabs, other ethnics are present in this study, namely, 39 Berber participants within the sample population. Although there are students from foreign Arab or African neighboring countries, such as Palestine, Syria, Tunisia, Mali, Tchad and Niger, this category was excluded from the sample population, for the simple reason that students from different origins do not share the same multilingual context or characteristics with Algerians (except maybe for the Tunisian students).

Participants enrolled in this inquiry share, practically, the same schooling experience with a slight difference between Arabs and Berbers in terms of language exposure. Despite the fact that the language of instruction is set by higher authority, practices within the educational system remain distinct. In other words, unlike the majority of schools which adhere to teaching the academic phase via Arabic (and sometimes through code-switching between Arabic and French), Berber instructors depend also on their mother tongue (Tamazight or Berber language) to teach in schools. Therefore, the subject participants, from a Berber origin, reveal a multilingual identity; encompassing three different languages (Arabic, Berber, French). This criterion, by no means, could bias the choice for the sample population, for the simple reason that Berber language is not a subject of investigation in this study, but French. The latter is regarded by all participants (at least explicitly speaking) as highly prestigious and significantly important in the field of medical studies. Henceforth, the target population can be declared homogeneous.

3.4.2 Profile of Teachers

This research revolves around six teachers from different departments. While the students' category can hold a homogeneous image, teachers differ widely in terms of age, occupation, qualifications, teaching experience as well as their educational background. Accordingly, a small description of categories is needed below.

- Two Franco-phone, male and female, teachers who age more than 50 years old, share, typically, the same bilingual education where French was the language of instruction in academic (pre-university) schooling. Both are senior lecturers but, the former in linguistics and research methodology while the latter in literature studies. Both teachers hold a large experience in teaching English, but the former in the university whereas the latter in high school. Both are full-time teachers but the former works in the department of English as full-time teacher and in the department of pharmacy as part-time teacher. Both are advocates of English/French code-switching and use it as a strategy in teaching. The male teacher, however, has a significantly larger experience, compared to other teachers, in teaching EMP, while the female teacher was newly recruited in the department of pharmacy.
- Four other teachers, two less than 30 years old and two more than 30 years old, share the same background education, where Arabic has become the language of instruction in pre-university studies. The four teachers are part-time teachers working in different departments, namely, department of pharmacy, department of dentistry, department of biology and department of economics. Three teachers hold an MA degree while one female teacher is a PhD candidate at Sétif 2 university. All teachers have experience in teaching EMP which varies from one year to more than five years. Three teachers declared to have a modest level in French while one teacher claimed to have a proficient language level. Their views and considerations vis-à-vis the phenomenon of code-switching differ from one teacher to another. Yet, three out of four use code-switching inside the classroom.

3.4.3 Sampling Procedure

The first tool to be used in this study is the classroom observation. Accordingly, a brief explanation, about the sampling procedure followed within the operation of this instrument is significantly important to be highlighted. The classroom observation, a qualitative tool which enables the researcher to observe and examine the instructor's behavior, teaching practices and discourse, was employed by the researcher for several reasons. First, to observe both teacher and students' behaviors inside the EMP classroom, to determine the general learning atmosphere of EMP course and to perceive the language of instruction as well as the students' discursive practices. These objectives are for point to check if code-switching is used as a strategy in teaching and learning and to reflect on its use in the classroom. For these reasons, observing both teachers' classes --only two teachers were working in the department of pharmacy as EMP teachers and were having three groups for each—was indispensable.

Each EMP group holds between 40 to 45 pharmacy students, however, the first three groups, taught by teacher One, differ widely from the other three groups taught by teacher Two. The difference was highlighted in terms of different teaching content and teaching practices as well as a different language of instruction. This heterogeneity imposes a purposive sampling, in which the researcher had to observe each teacher alone. Furthermore, the selection of the groups to be observed more chronologically ordered than systematic. The researcher observed a session per week where the choice of the observed group, since there were two groups studying successively from 8 a.m. to 12 o'clock, depended on the researcher's availability and time constraints. In other words, the researcher went to the department one day per week to observe one session. This observation procedure was carried out with four different groups, two groups out of three for each teacher, within the time constraints of one month.

Based on administrative data, the total number of second year pharmacy students (whole population) is 258, however, the representative sample, taken for this study, is 162 pharmacy students. The researcher decided to work on a sample, instead of the whole population, for different reasons. The latter for which researchers depend on a sample

population in inquiries, are related mainly to time constraints, length and/or complexity of the process of data collection which make the selection of the whole target population impractical, and consequently, impact the phase of data analysis. In research, there is a possibility to take a representative sample population which guarantees feasible and efficient data collection and analysis, and thus generates reliable and credible findings. For this reason, the researcher, based on a simple random sampling technique and through a sample size calculator, took 162 out of 258 pharmacy students which represents approximately 63% of the total population. This high sampling ratio suggests that the sample is likely to be representative and substantial of the overall population. Moreover, the sample size calculator indicates that 162 achieves a confidence level that equals 95%, which means that the margin of error is $\pm 5\%$. These metrics, commonly accepted standards in research, show that the sample size of 162 is large enough for reliable statistical inference.

As far as the teacher subject is concerned, and since there are only six EMP teachers in both, the faculty of medicine and faculty of languages in Sétif, the researcher requested to work with all of them. Therefore, and given the small size of the EMP teacher population, the study includes all six teachers to ensure thorough data collection. This approach captures every perspective within this group and represents the true experiences and practices of all EMP teachers within EMP context. Hence, the choice of target population ensures the validity and reliability of the findings. Moreover, including everyone prevents sampling bias and guarantees a comprehensive view of EMP instruction in this educational setting. However, for the qualitative phase, only three teachers agree to appoint an interview session with the researcher. Later on, the three teachers conducted a semi-structured interview, one was directly, face to face, interviewed while the two others were virtually interviewed via Zoom.

As far as the focus group discussion is concerned and since it is a qualitative means of analysis which focuses on the depth rather than the breadth of the investigated topic, and intends to retrieve detailed perspectives and viewpoints from the sample population, the choice for a small sample is required and justified in this case. as it is feasible to generate thorough analysis. For this reason, the researcher attempts to form a focus group of 10

pharmacy students, selected from different classes and taught by different teachers, in addition to two EMP teachers to handle a focus group discussion about code-switching in EMP instruction. However, only eight students and one instructor had the focus group discussion.

Another qualitative phase in this study concerns discourse analysis. For this qualitative phase, the researcher selected a corpus of 12 EMP sessions, four sessions from each EMP teacher, recorded and collected during the first semester. While the research' focus revolves around the teacher's discourse and code-switching functions, these sessions provide a comprehensive overview of discourse practices and code-switching roles in an EMP context, ensuring that a wide range of teaching interactions, through code-switching, are captured. The real corpus size was reduced to ten sessions for efficiency and saturation reasons, while each session holds as minimum 90 minutes and as maximum 120 minutes, the total amount reflects 20 hours of EMP teaching content. Given that 10 sessions allow for identifying consistent patterns of code-switching without overwhelming the data analysis process, the selected corpus, therefore, supports in-depth analysis while achieving saturation. Henceforth, the sample corpus, here, ensures reliable and meaningful findings since it balances the goals of detailed discourse analysis with practical constraints.

3.5 Data Collection Instruments

Conducting a case study depends on a number of principles. Within the phase of data collection, a fundamental principle is the use of a well-structured design and a variety of research instruments. The procedure of employing and combining multiple quantitative and qualitative data collection tools emerges to be known as triangulation. The latter has been proven to increase the probability of achieving the research aims, to guarantee the validity as well as the reliability of findings. Through triangulation, the researcher is equipped with the necessary tools to cross-check the results and to compare data reflecting on whether they oppose or confirm each other (Creswell, 2006). These instruments such as questionnaires, interviews, observation checklists, focus groups, and data recording systems, are designed and/or adapted for specific research goals and types of data. In social research, reliable data collection tools are essential in reducing bias, improving accuracy,

as well as making findings reproducible (Groves et al., 2009). Accordingly, depending on high-quality tools in collecting data makes the process of analysis more efficient by helping the researcher target the research goals and collect relevant information about it, for instance, identifying patterns, functional roles, highlighting attitudes and relationships or uncovering trends within specific phenomena.

As far as the present study is concerned, the researcher employed a variety of quantitative and qualitative tools, namely, classroom observation checklist, questionnaires for teachers and students, semi-structured interview, focus group discussion and recordings and analysis of ten EMP sessions. Data gathered by means of these instruments are assessed through a triangulation method to correlate and draw upon the questions and hypotheses raised in this inquiry.

In spite of their utility and significant importance in this research, the questionnaires, the semi-structured interview and the focus group discussion are directly related to the research questions and hypotheses concerning the attitudes, since the three tools act upon the participants' viewpoints. However, the discourse analysis phase tackles the fourth and the fifth research questions which revolve around code-switching functions and its impact on learning comprehension. Eventually, and to be clear, the role of the classroom observation during the preliminary phase, is more exploratory than explanatory. Which means, the purpose of conducting an observation is to reveal the general climate of the EMP course, to observe the language of instruction as well as the students' language, to witness the teacher-student interaction and to provide a general description of the teaching and learning process of EMP course. This step is vital in the exploration phase, that will pave the way for the researcher to design and develop a consistent outline to achieve the research goals. Henceforth, a detailed description of each research tool used in this investigation will be addressed in the following section.

3.5.1 Classroom Observation

In educational context, Classroom observation is a structured method used to observe and check over a period of time the teaching practices, the classroom general

atmosphere as well as the teacher and students' interaction and the latter's participation. All of which has an attempt to improve the teacher's instructional methods and to boost his development. The general outline of this tool revolves around observing, recording, analyzing and interpreting the teaching and learning practices within a particular pedagogical context (He, 2021). This tool is acknowledged for its valuable feedback on evaluating and refining teaching approaches as it may offer insights that can make both teaching and learning more effective (Zaare, 2013).

While there are different types of classroom observations, whether self-observation or peer observation, systematic or non-systematic, teacher-centered or learner-centered, all of these demonstrate different procedures and techniques developed and pertained to the research goals and research focus. However, the major distinction within this research instrument revolves around participant or non-participant observation. The former, as the name suggests, requires an active participation of the researcher in the classroom. During the process of observation, the researcher is not only an observer but also can actively engage in the lesson by asking questions, commenting and even interacting with the instructor and the learners. This kind of observation denotes that the population being observed is aware of the process, and a previously agreed-on consent is granted by the teacher to the researcher. While this type does not confound with the ethical considerations, and may bring deep understanding of classroom general climate, it holds a potential risk of impacting the teacher as well as the students' behavior. In other words, teacher and students act naturally within a regular educational context, but once they know they are put under observation, they may become vigilant and change their behavior in front of the observer (considered as an intruder). If this happens, the risk to have non-authentic and highly biased data jumps to a higher level.

Non-participant observation, as the name suggests, refers to a non-engagement or sharing from the part of the researcher. Following this kind of observations, the researcher has to exclude himself/herself completely from the process of instruction, where he should remain an external observer, strictly, recording, taking-notes or filling the checklist. Depending on the available context, he/she should remain distant, sitting far from the participants and observing from beyond, or, if the classroom is small, he could be

noticeable but not identifiable. In both cases, neither the instructor nor the students are aware of the process of observation, hence, genuine behaviour and practices could be observed. However, this type may induce ethical considerations, since no consent or clarification are provided.

Both participant and non-participant observations have diverse advantages on the research line and the collection of data. Participant observation allows researchers to gain thorough, firsthand insights by being part of the observed environment, whereas non-participant observation provides more objective and structured information. In research, the choice of one over the other is based on the study's goals and intentions. Taking into consideration factors and risks that may influence the research data, for instance, how much the observer might influence results and the level of interaction needed with participants.

As far as this study is concerned, the classroom observation adopted in this respect is based on a non-participant type. The researcher attempts to objectively observe the classroom dynamics without interfering with the teaching and learning process or engaging with participants in the classroom. She depended on a variety of tools, namely, an adapted classroom observation checklist, audio-recordings of session in addition to notes-taking. Doing so, will help her generate preliminary unbiased reliable data, based on which she is going to build on further data collection instruments. However, it is worth mentioning that no ethical issues rise out of this process, since the researcher was granted permission to conduct a classroom observation by the administration and both EMP teachers. Yet, second year pharmacy students were ignorant about the process and the procedure, even if they have noticed her presence during the EMP course. Through this step, the researcher adhered to ethical matters as she maintained a natural occurring course without disruption or interference, and thus guaranteed the observation of a natural (at least from the part of students) occurring behavior.

The observation procedure went as follows:

- The classroom observation took place during the first semester, starting on mid-October till mid-November.

- Four EMP sessions were observed, two sessions from Teacher One classes and two other sessions from teacher two sessions.
- The observation process took place from 8 a.m. to 10 o'clock for the first two sessions, and from 10 a.m. till 12 o'clock for the second two sessions. Normally, the EMP course is of 2 hours length, however, teacher two provided breaks during the session, and for the two times observed, he ended the course a quarter to 2hours.
- The observer sits in the back of the classroom, where no contact or presence is noticed from the part of learners. Even though the EMP course had the form of a TD session, the number of students per session was significantly high (up to 45 per session), this is why they were having the course in a large classroom. These conditions permit the researcher to integrate into the classroom without disturbing or attracting the attention of students.
- The researcher depended on an observation checklist, which she kept in her hand, while the audio-recording phase was handled through a smart-phone placed on an empty table near the teacher's desk. The positioning helped recording a somehow audible and a clear discourse from both teacher and students who were engaging in the classroom. The phase of notes-taking was happening simultaneously with the checklist filling. The researcher had to take notes about what she observed as significantly important information for research considerations. This phase is a complementary step that covers the missing points within the observation checklist.

During the phase of classroom observation, two important considerations about the EMP course are regarded. First, given that no common syllabus, materials or content is provided or assigned to teachers as compulsory content to deliver, teachers, depending on their personal effort and professional experience, employed different teaching content, methods and materials. Therefore, while the population being observed is homogeneous, the content differs widely from teacher one to teacher two. Second, concerning the language of instruction and even though no (political or administrative) restrictions are required for the use of a monolingual approach over a multilingual approach, and while teachers are free to use the language and the form that best suits their teaching process, teacher one is deeply involved in multilingual instruction through mainly, English/French

code-switching and for few situations English/French/Arabic alternations. Teacher two, however, is more adherent to the monolingual style while code-switching instances (French and Arabic with English) are noticed more within his students' discourse. Departing from these considerations, the objectives of the classroom observation are:

- To determine the general climate of the EMP course
- To observe the language of instruction and the content of the EMP course
- To disclose the linguistics behaviour of learners
- To observe the course objectives and to determine the course challenges

To meet the above-mentioned objectives, the researcher made use of an observation checklist as shown in table 4.1. (available also in appendixes) The structure of this checklist revolves around six themes namely; course structure, course general climate, course content and materials, language of instruction, teacher-student interaction and learning difficulties. Based on a likelihood scale of five degrees¹, where the latter moves from the least likelihood extent which is not at all to the largest degree described as; to a great extent, the researcher attempts to measure the different points highlighted within the six themes mentioned above. As for the analysis, the scale is used to generate preliminary data that will unveil significantly important aspects about the phenomenon of code-switching within EMP instruction.

3.5.2 Questionnaires

Within research, questionnaires emerge as essential instruments in the collection and the analysis of data. This tool is frequently employed to collect quantitative and qualitative information from a target population. The structured form of this instrument enables the researcher to target large populations and to collect consistently reliable

¹ The likelihood scale adopted in this observation checklist highlights five degrees which are; not at all, little, somewhat, moderately, to a great extent.

information about the subject participants. Therefore, questionnaires are significantly crucial across diverse fields, notably social and educational fields.

The questionnaire, as its name suggests, consists of a set of organized questions that attempt to gather information about a particular phenomenon from a selected sample population. The questions can be both quantitative and qualitative, thus the data generated via questionnaires can be statistically as well as thematically analyzed. Therefore, results can be generalized on larger populations. The fundamental objectives of a questionnaire are to gather accurate and relevant data, in the meanwhile it attempts to reduce the margin error and to ensure unbiased information. Accordingly, to achieve this aim, the procedure through which this tool is structured and administered should be carefully considered by the researcher, given that the smallest mistake could affect the validity and reliability of findings. This is why, questionnaires play a critical role in research methodology as a tool for generating credible data (Saw & Ng, 2001).

Reliability and validity are two essential criteria that preserve and reflect the credibility of any instrument of data collection, including questionnaires. Reliability refers to the consistency of responses. In other words, a reliable questionnaire, normally, produces significantly similar results within conditions that can be described as stable and consistent. Validity, on the other hand, indicates how accurately the questionnaire captures the true values of the variables being put under investigation. A well-designed questionnaire, is a research tool within which questions and scale choices are carefully formulated to reduce misunderstandings and to ensure that the instrument, accurately, captures the intended constructs (Saw & Ng, 2001). To make sure the questionnaire operates within the required validity and reliability criteria, the researcher often conducts a pilot test with a small number of subjects extracted from the sample population. This process permits to discover and pinpoint any potential problems within the questions elaborated in this tool. Therefore, this phase, prior to the administration of the questionnaire to participants, is significantly important to guarantee the clarity, accuracy and consistency of questions and scales.

In case studies, where researchers are interested in exploring specific themes or specific groups and reveal in-depth data about, the use of questionnaire is highly noticed and required as it can provide invaluable information about these topics and this particular context. Accordingly, questionnaires have the capacity to explore particular facets of participants' experiences or environments that might otherwise be challenging to observe directly. This level of specificity is essential to unveil nuanced factors and to generate insights that are directly relevant to the case put under investigation (Stewart et al., 1998). Moreover, questionnaire is a powerful instrument in case studies in a way that, through gathering qualitative data, it enables the researcher to tackle the non-measured responses, related mainly to participants' perceptions, attitudes and experiences in the field of investigation (Taherdoost, 2016).

Depending on questionnaires in this inquiry is significantly indispensable. The main objective for designing and administrating this tool is to gather accurate and reliable data concerning the phenomenon of code-switching in EMP instruction. This tool, therefore, is set to explore the attitudes of participants vis-à-vis the use of code-switching in teaching and learning English for medical purposes, to reveal the teaching and learning difficulties within this educational context, as well as, to unveil the teaching and learning practices, preferences and behaviors concerning this phenomenon. Accordingly, this instrument is crucial in this study, as it provides accurate and reliable data about the participants as it draws on deep insights in relation to the positive contribution of this phenomenon in EMP instruction. Henceforth, two questionnaire forms are developed and administered to two different categories; one for EMP teachers and one for pharmacy students.

3.5.2.1 Description of Teachers' Questionnaire

The "EMP Teachers Questionnaire" aims to gather information about how English-French code-switching is used as a teaching strategy in English for Medical Purposes (EMP) courses in Algeria. It is organized into multiple sections, while each section is designed to gather specific details on various aspects of EMP teaching. These sections focus on areas such as the experiences of teachers, the teaching methods, in addition to

teachers' attitudes towards the use of code-switching as part of their instructional approach. Through this questionnaire, valuable insights are sought into how teachers use both English and French in EMP course to enhance the learning skills and to improve the vocabulary comprehension and medical terminology.

Though close-ended questions are the most common form of questions within this tool, since they report quantitative and statistical data that could be generalized through statistical analysis, open-ended questions can also form a set of inquiry within questionnaires. The latter could tackle, through combining close-ended and open-ended questions, both quantitative and qualitative data. As far as participants are concerned, the choice of the close-ended questions is highly appreciated and significantly favored over the open-ended inquiries, given that participants (especially for students) could rapidly tick a choice, answer by yes or no or order a range of values. The easiness of responding makes participants more willing to answer close-ended questions than the open-ended ones. In this respect, the questionnaire that is dedicated to teachers encompasses 35 questions, a large number of which are close-ended with few necessary open-ended questions, set in a separate or a mixed way, to provide enough space for teachers to further elaborate their ideas or to justify their choices about an answer.

As stated before, six teachers are involved in this study. Three teachers working in the department of pharmacy, the other two teachers are from the department of dentistry whereas the last one is an EMP teacher who worked previously in different medical departments in the same university, and he is currently working in private institutes as EMP teacher and a senior lecturer in the department of English language and literature. Concerning the administration of the questionnaire, teachers from the pharmacy department were given the questionnaire in a paper format during their EMP sessions. However, the other teachers got the questionnaire through emails since they were not available in the faculty, as the other teachers from the department of pharmacy. The researcher, then, preferred to send the questionnaire via their address mails as better and faster process ensuring the receipt and the response.

As far as the description is concerned, teachers' questionnaire consists of 35 questions divided into six sections. Each section concerns a particular point of investigation; therefore, a brief description of each section is provided in the following part:

- Section one: Background Information (one question with sub-questions from 1 to 1.8)

This introductory section revolves around demographic and background details about EMP teachers. The latter are requested to select options about their gender, age, occupation (full-time or part-time), teaching experience, proficiency level in French and the languages in which they are fluent, offering the possibility to mention other languages besides the box.

- Section two: EMP teaching and Teacher Training (from question 2 to 8)

This section focuses on the teaching practices in EMP course. Questions include whether the teacher believes in the importance of knowing students' profiles, whether they conduct placement tests for English and French, and how comfortable they are with teaching EMP. Response were navigated through simple yes/no choices or rating scales. For certain yes/no questions, EMP teachers are prompted to justify their answers. For instance, if they think learning about students' profiles is not important, they are asked to provide reasons.

- Section three: Teaching Materials (from question 9 to 13)

This section focuses on the resources used in classroom. Teachers indicate which types of materials they use to prepare their EMP course, such as university-provided curriculum, department-provided syllabus, textbooks, or websites. They are also asked about the availability of these materials in different languages. For questions on material translation, teachers are asked to specify reasons for translating material into French, such as time-saving or providing better explanations.

- Section four: Skills Development in EMP Course (Question 14 and 15)

This section focuses on the language skills being developed in EMP courses. Teachers are asked to indicate which skills they focus on (e.g., grammar, vocabulary comprehension, listening, writing) and which language (English, English/French, or English/Arabic) they use to achieve these objectives.

- Section five: Language of Teaching and Interaction (question 16 to 19)

This section focuses on the use of code-switching in teaching. Teachers are asked if they switch between languages when in the classroom, which languages they employ, and why they use code-switching. They are provided with a list of reasons (e.g., providing better explanations, saving time) and asked to indicate which one or multiple choices apply to their answer. Through open-ended questions, teachers are asked to specify additional reasons for using code-switching. They are, also asked how often certain teaching practices happen in their courses and the rate of such practices, for instance, frequency of code-switching, switching to meet course objectives, and student-initiated code-switching on a scale from "Never" to "Always".

- Section six: Perceptions and attitudes towards English/French Code-Switching (question 20 to 34)

This section gathers the teachers' perceptions and attitudes towards the use of code-switching in EMP courses. Using a Likert scale, teachers are asked to express their agreement or disagreement with various statements related to code-switching, such as whether it helps explain content, enhances vocabulary, or creates confusion among students.

Last but not least, teachers' questionnaire ends up with an open-ended question (question 35), encouraging instructors to add any comments or views that they feel were not covered by the questionnaire as well as, welcoming any additional suggestion within this investigation.

3.5.2.2 Description of Students' Questionnaire

A students' questionnaire was developed, as a significantly important tool, to collect mainly quantitative and in a less extent qualitative data from the part of learners in EMP classroom. As stated earlier, the case study revolves around 162 second year pharmacy students from the faculty of medicine, Sétif 1 university. Likewise, the same number of questionnaires has been delivered to the sample population during the EMP session via the instructors and collected from the participants during the same session a week after. The choice was based on a simple random selection, through which each teacher, depending on the alphabetical list of students, selected one out of two participants till he reached the required number in each class. Therefore, this technique guarantees the equal opportunity for each participant to be selected as a subject participant in this investigation, to whom the students' questionnaire was assigned. Eventually, both instructors on behalf of the researcher, took the responsibility to provide brief explanation and requirements for participants to take into consideration, prior to the phase of generating answers.

The students' questionnaire is composed of 31 questions. The latter are organized in six major sections, each section is formed out of a number of questions that revolve around a specific theme or characteristic about pharmacy students. Therefore, a brief description of these sections will be provided below:

- Section one: Background Information (question 1 to 3)

This section aims to collect demographic information, such as gender, age, and language fluency, which helps in understanding the diversity of the participants.

- Section two: Schooling Information (question 4 to 7)

This section captures details on pharmacy students' academic education, with a particular focus on the languages they have studied, the mediums of instruction they have experienced as well as their learning experience in English versus French. During this section and through question 7, participants are required to determine their estimated

proficiency level in French. This section therefore, opts for determining the characteristics of homogeneity or heterogeneity within the EMP course, in terms of language proficiency and language use, drawing on, practically, similar experience in learning English and French revealed by the majority of students in this inquiry.

- Section three: Language as Medium of Instruction (question 8 to 12)

This part evaluates the students' experiences and explores their comfort vis-à-vis the medium of instruction employed by the subject-specialists in pharmacy modules as well as their language preference within this field. Likewise, students' experiences and comfort towards the language of instruction in EMP course are also tackled.

- Section four: Approaches to Medical English Learning (question 13 to 15)

This section investigates the students' practices in the EMP course, notably, the students' reliance on code-switching inside the classroom. It, therefore, examines the frequency of learners code-switching, the instances and types of code-switching, with whom code-switching is currently used in addition to reasons and factors that pushed students to resort to this practice.

- Section five: Approaches to Medical English Teaching (question 16 to 18)

This part is interested in exploring the frequency of teachers' code-switching, the reasons, from the point of view of students, for teachers' code-switching in the EMP course, in addition to investigating their preference between the monolingual approach or the code-switching approach in teaching EMP courses.

- Section six: Students' Attitudes towards the Use of English/French Code-switching in the EMP Course (question 19 to 30)

The last and most important part of this questionnaire describes a set of questions that attempt to examine pharmacy students' attitudes towards the use of code-switching to enhance the learning process of EMP. This section, therefore, assesses pharmacy students' perceptions on how code-switching affects their understanding, vocabulary

comprehension, and learning motivation. Through a Likert scale of five options, students were asked to determine whether they agreed or disagreed on future implications for code-switching role in the EMP course.

To conclude with, a last mixed-question (question 31) on how students regard code-switching use in the EMP course, and whether they consider it an effective pedagogical strategy or an impediment on the learning process, was elaborated with required space to justify the students' yes or no answer. Moreover, students were welcomed to add any comment or suggestion about the topic of investigation.

3.5.3 Interviews

While questionnaires are the highlighted reliable tool in quantitative data collection, interviews emerge as a significantly important research instrument in collecting and assessing qualitative data. Recognizing this method as crucial in qualitative research, makes the task of collecting rich, detailed information about an investigated topic conceivable. This research tool operates through direct, face to face or virtually handled, conversations with the subject participants, as an attempt to obtain in-depth insights into participants' experiences, beliefs and perspectives. Interviews are of three types; structured, semi-structured, or unstructured. Each type offers a different level of flexibility. However, the three types are acknowledged as consistent and reliable ways to reveal and evaluate the intricate meaning behind the participants' behaviors and social interactions. These aspects present a significant challenge while attempted to be assessed through other methods, such as surveys (Burnard, 1994).

As far as the types of interview are concerned, structured, semi-structured and unstructured denote different forms and tackle different research objectives. The first type, as its name suggests, involve a structured manner of asking questions, based on the same order for each participant. This type is highly required for comparative investigations however, it offers a limited flexibility for exploring unexpected insights that can emerge during the process of interviewing and could have a significant impact if further explored. Type two, the semi-structured interview is considered as a moderate model that falls

between the structured and unstructured formats. This type suggests that researchers use predefined questions, prior to the process of interviewing, however researcher can further investigate and extend a follow-up inquiry if he/she feels the need to get indulged with more profound data. Therefore, the semi-structured interview paves the way for the researcher to further explore the research responses. Consequently, the semi-structured interview is the most required type of interviews within case studies, as it allows the researcher to cope with the interviewee's narrative (Griffiee, 2005). The last type or what is known as unstructured interview is kind of interview that is guided by the participant instead of the researcher since it provides open-ended questions and permits the subjects to manipulate the chain of questions and to trace the line of inquiry. This type is less required in case studies, since it can be time-consuming and difficult to analyze (Doody & Noonan, 2013).

As far as this study is concerned, the researcher opted for a semi-structured interview, as a data collection tool, to explore and understand the EMP teachers' insights and thoughts about the use of English/French code-switching as a discursive practice in EMP instruction. As stated earlier, the purpose was to conduct an interview with all teachers taken as subjects in this inquiry. However, and for reasons that exceed the researcher's will and control, only three teachers adhered to have an interview meeting. It is worth mentioning that, one interview was conducted face to face, whereas the two others, and due to the pandemic era of COVID-19 and the displacement of the researcher from the wilaya of Sétif, have left no choice but to conduct the two interviews via the virtual platform of Zoom. The researcher followed the same procedure for both kinds of interviews. First, she provided an overview about the topic being investigated, then she offered the list of questions in a paper form, for the face to face interviewee, and through sharing the screen with the other two virtual interviews. This step made the participants at ease to re-read the questions, especially for the long ones. For the first interview, data was collected via audio-recording, while the second two an audio-visual memorization was made by Zoom as saved in the account of the researcher. The estimated time for interviewing was 30 minutes maximum, but through zoom, the time duration was extended

to 45 minutes to deal with technical issues, like the sound, the screen share and internet bugging.

It is significantly crucial to state that data generated through semi-structured interview was compared and cross checked with the other data revealed through questionnaires and discourse analysis. This step is meant to reinforce the findings and to draw upon collective common perspectives, where no contradiction or confusion is apparent. Also, one may notice that some of the questions drawn in the questionnaire are being repeated within the interview. This could be justified when questions are compared through both tools, denoting that the close-ended inquiries in the questionnaire, are being further tackled through open-ended questions in the semi-structured interview. This process aims to provides extended insights and explanations when the questionnaire fails to fulfill this task. Therefore, the replication of certain questions through different data collection means is intended and systematic, and not as one can thought of to be a mistake. Based on this, the coming step is to provide a brief description of the teachers' semi-structured interview employed in this research.

3.5.3.1 Description of Teachers' Semi-structured Interview

The interview, conducted with EMP teachers from the faculty of medicine encompasses eight questions, besides the introductory and the concluding questions. Each question will be described below.

As a first step, the researcher aimed at Establishing the interviewee's credibility, which is an important preliminary step to understand their background and the context of their responses. It helps the researcher determine their familiarity with language use in medical education, which sets the foundation for the rest of the interview. Accordingly, after requesting the interviewee to present himself/herself according to his/her qualifications, teaching experience and work experience in relation to EMP, he/she, then was asked a number of questions:

- Question one revolves around the course objectives. This question aims to gather insights into the specific goals and intended outcomes of the medical course the teacher delivers.
- Question two raises the issue of learning difficulties in EMP courses. This question seeks to identify challenges that students face in learning, including those that might be related to the teacher's use of language.
- Question three explores the effectiveness of code-switching for learning. This question explores whether code-switching is an effective tool for addressing comprehension issues and achieving course objectives. The researcher seeks to understand the perceived benefits of code-switching in EMP course from the teacher's perspective, highlighting whether it enhances student understanding or not.
- Question four investigates the purposes of code-switching in teaching EMP course. This question aims to determine the motivations behind using code-switching, whether they are pedagogical (to facilitate learning) or practical. Understanding the reasons for code-switching helps clarify the role it plays in EMP instruction and whether it is a conscious choice aimed at enhancing the teaching and learning process.
- Question five tackles the impact of code-switching on the learning skills. This question aims to assess whether code-switching has a positive effect on pharmacy students' skill development. The generated response will help evaluate the broader impact of code-switching beyond comprehension, evaluating its influence on different language skills.
- Question six raises the issue of code-switching and how it is regarded as an obligation or a choice in the field of medical studies. This question explores whether teachers feel forced to use code-switching due to necessity or choose to do so as a teaching strategy.
- Question seven revolves around the French language and its significance in the EMP course. It seeks to unveil the teacher's opinion on the necessity of mastering French for teaching English for Medical Purposes (EMP).
- Question eight targets the controversy about code-switching in education, and whether it can be seen as an effective pedagogical strategy or a language barrier and impediment. This question, therefore, presents opposing viewpoints on the effectiveness of code-switching and asks for the interviewee's opinion. The response will provide insight into the teacher's stance on the debate over the value of code-

switching, indicating whether they view it as a helpful or detrimental strategy in EMP instruction.

- As a closing question, the researcher provides the interviewee with the opportunity to share any additional thoughts or suggestions about code-switching in EMP instruction. This question allows the interviewee to express his/her concerns or offer insights that were not covered in the previous questions, contributing to a fuller understanding of their perspective.

Each question in the semi-structured interview is designed to gather detailed insights into the use of English/French code-switching in the context of medical education in Algeria. The questions focus on understanding teachers' backgrounds, their motivations for using code-switching, the challenges faced by students, and the perceived impact of code-switching on learning. This approach allows for an in-depth exploration of code-switching as a pedagogical strategy, providing qualitative data that can help understand its effectiveness and the challenges associated with it.

3.5.4 Focus Groups

As far as learner subjects are concerned, the second instrument employed in this study, to gather informative insights from the part of pharmacy students, is the focus group discussion. This data collection tool, known for its significant implications and its capacity to provide consistent reliable data. The latter would enrich the qualitative side of the research inquiry. Accordingly, as indicated in research methodology documentation, focus groups are a qualitative data collection technique that consist of gathering a small number of participants, generally speaking the number is estimated between 6 and 12, for the purpose of discussing a specific topic or phenomenon. This discussion is guided and monitored by a skilled moderator, known somehow like the head of the discussion who has an aim to control and direct the flow of interaction between the different participants. This method, therefore, is trustworthy to generate qualitatively significant data from the part of the subjects who share their ideas, elaborate their thoughts and react to each other's perspectives (Krueger & Casey, 2014).

Focus groups are a sort of a collective interview, instead of interviewing each participant alone, a number of subjects are formally gathered in a particular location and a specific time, to handle all together a kind of formal discussion about the investigated points within a particular research study. However, unlike the interview, this method revolves around a dynamic interaction between a number of participants that are encouraged to discuss and reveal their perceptions and attitudes, as they are elicited to react and draw upon each other's ideas, henceforth, generating in-depth insights about the inquiry. Generally, the researcher, who acts as a moderator of the focus group discussion, depends on a flexible structure in allocating a number of (open-ended) questions to engaging participants. This flexible way of handling the discussion aims to maintain the natural flow and to encourage spontaneous conversations. Accordingly, focus groups are particularly useful in understanding the "how" and "why" behind participant attitudes (Krueger & Casey, 2014).

Employing this research tool in case study investigations is fruitful and effective in many ways. First of all, focus groups enhance the depth of understanding, since they contribute to build on shared collective perspectives and common interrelated meanings (Yin, 2018). Second, tackling a specific group within a particular context, through a focus group discussion, could reveal reliable context-based insights that are significantly cherished in case study investigations within which the primary aim is to uncover the specific dynamics of a particular group in a given context (ibid). Moreover, when compared to the interview, focus groups enable the researcher to draw upon a collection of thoughts and ideas that form the final elaborated understanding of the case and the topic Morgan, 1997).

In mixed-methods design, focus groups are used to complement the quantitative data collection phase. These tools aim to provide a qualitative basis to the numerical findings, through the extraction of profound insights and explanations about the themes observed via questionnaires (Creswell & Plano Clark, 2018). Meanwhile, if the inquiry follows a sequential order of investigation, focus groups are employed after a quantitative phase to further expand and explore the findings arrived at through surveys. Thus, focus groups enable the researcher to tackle the qualitative part that could not be assessed through

quantitative means (ibid). Eventually, focus groups could have specific intents besides their general ones, they this instrument is apt to play an exploratory role, when used at the beginning of the research prior to formulating the questions and hypotheses. This tool, therefore, could help the researcher formulate hypotheses and identify the key variables for the quantitative stage (ibid).

Focus groups emerge as significantly useful tools to deal with the qualitative phase of any research. However, this instrument has, potentially, a number of limitations that should be taken into consideration. The risk of generating biased data is extremely high when few participants overcontrol the discussion and dominate the discussion, leaving no space or opportunity to a fair, equal participation of all subjects integrated in this inquiry. Besides, the random selection of participants may result in involving, different or contradicting personalities and traits in the discussion. this step may hinder the engagement of introvert intimidated participants, compared to their counterparts who have an extrovert personality and are confident in engaging and sharing with other members. This obstacle within the process could result in a refrain from participating in the focus group discussion, and thus leading to biased understanding through generating an incomplete image of participants' perspectives (Krueger & Casey, 2014).

Another significant limitation that could potentially affect the reliability of data is the influence of the general (group) belief over the singular (diverge) opinion in discussions. In other words, since participants are attentively listening to each other they are formulating knowledge about each participant's thoughts and perceptions, in the meanwhile, they share and discuss with each other. Therefore, single members who have a distinct opinion from the general viewpoint, may be influenced by the latter, which may lead them to change or reformulate their opinions to cope with the dominant thoughts (Morgan, 1997). Other limitations could be related to the role of the moderator and the skills to efficiently moderate the focus group discussion. if the researcher lacks the necessary skills, he/she may inadvertently influence the discussion or unintentionally impede the exploration of the investigated topic. Therefore, poor moderation skills and the lack of experience, from the part of the researcher, may result in generating inadequate data (Krueger & Casey, 2014).

3.5.4.1 Description of the Focus Group Discussion

In relation to this study, a focus group discussion was employed to achieve two objectives. First, this tool is used at the very first stage, and in concordance with the classroom observation, to help the researcher gain insights about the research gap and the research problem. The researcher, therefore, depends on this tool to formulate the research questions and hypotheses that trace the line of this inquiry. Second, this instrument is re-used for the second time as a qualitative data collection method to gather in-depth insights about the phenomenon of code-switching in EMP instruction, notably, from the part of learners. Therefore, and for a more suitable way, the researcher, instead of using an interview, preferred the focus group discussion to generate collective perceptions and opinions from second year pharmacy students.

As far as the procedure is concerned, the researcher agreed with both EMP teachers on the location and time that can suit learners and instructors for conducting a focus group discussion. Accordingly, the scheduled focus group was planned by the teacher. The researcher intended to have 12 participants and two EMP teachers within the process that would take at maximum 90 minutes, however ten pharmacy students were selected by their teachers to join the discussion with the presence of one EMP instructor. The selection of participants was left to the teachers, since they are the best to know their learners. Based on a number of criteria, such as the students' personality, their abilities to engage and interact, their confidence and extrovert attitude to share ideas and opinions within a learning context without being intimidated, are all taken into consideration. Therefore, each teacher has chosen five students, he believes are the best members that suit the inquiry. However, it is significantly important to mention that the choice of participants is not based on a prior knowledge of students' perspectives about code-switching. On this basis, the procedure guarantees a homogeneous group in terms of communication and engagement and ensures that none of the participants is selected on the basis of his positive or negative perception, since their teachers ignore this fact. Accordingly, five open-ended questions form the basis of this discussion.

Prior to providing a brief description of the focus group discussion, it is worth mentioning that, the first three questions were used in the preliminary phase, whereas, in the second qualitative phase, the researcher added two other questions to tackle the phenomenon of code-switching in EMP learning. Therefore, the following questions are stated as follows:

- **Question one:** Why is learning English important for Medical (pharmacy in this case) students?

This opening question helps to establish the importance of learning English for pharmacy students. It sets the tone for the discussion by encouraging participants to express their opinions and motivations behind learning the English language. This provides context for the challenges and needs discussed later. Understanding how pharmacy students see the importance of English is crucial, as it helps in determining how motivated students are to learn EMP. It also helps to identify the students' perspectives on the value of English in pharmacy studies.

- **Question two:** What specific skills do you think pharmacy students need to learn and improve?

This question revolves around the specific language skills (e.g., speaking, listening, reading, or writing) that pharmacy students find most important. through identifying which skills should students focus on and determining their needs, instructors can better address the latter, in terms of syllabus, materials and even the language of instruction.

- **Question three:** What kind of difficulties do pharmacy students face when learning English for medical purposes?

This question seeks to understand the challenges faced by medical students in learning English, particularly in a medical context. Identifying these difficulties could draw potential relation to the language of instruction used by the EMP teachers. Thus, exploring barriers to learning (monolingual approach) and provide targeted interventions (introducing code-switching in the EMP course).

- **Question four:** Do you think that studying English via English/French Code-switching will help you overcome your learning difficulties and improve your learning skills?

This question explores pharmacy students' perceptions about code-switching as a potential tool for learning EMP, aiming to determine whether students find code-switching beneficial in grasping complex medical content. Understanding this helps instructors decide whether to incorporate code-switching into their teaching strategies to enhance comprehension and reduce learning difficulties related to the difficulty of the medical content and the complexity of the language of instruction.

- **Question five:** Do you think that teacher's English/French Code-switching could have a negative impact on your learning and learning skills?

The last question balances the previous one by considering potential drawbacks and possible shortcomings of code-switching in EMP course. It is important to understand whether students believe that the frequent use of code-switching could hinder their ability to learn English, thus affecting their long-term language development. This feedback helps in finding the right balance between aiding comprehension and encouraging language proficiency.

This focus group discussion depends on targeted questions to reveal both the benefits and challenges of learning English for pharmacy students. The questions aim to gather both; students' personal opinions and perspectives about their educational needs. Including questions about code-switching aim to collect deeper insights on how pharmacy students view bilingual teaching methods, which can help in shaping effective EMP learning strategies for them.

3.5.5 Discourse Analysis

In this study, the second major part of data collection and analysis phases, revolves around analyzing the teachers' discourse in EMP settings. This step is essential in exploring, investigating and revealing the functional roles of code-switching within the teachers' discourse. Therefore, discourse analysis is a qualitative data collection approach

that attempts to examine, not only the linguistic features, but how people use language, communicate, and interact to understand meaning and social context. In other words, discourse analysis is a strategy to analyze the language beyond the written or spoken forms as it seeks to understand how language constructs social realities, identities, and shared understandings (Gee, 2014; Fairclough, 2013). In a mixed-methods designs, discourse analysis can be used with quantitative data collection tools to provide a deeper and more detailed understanding of the topic being studied. Furthermore, this strategy helps researchers explore idiosyncratic and social aspects that add depth to quantitative results (Creswell & Plano Clark, 2018).

Data for discourse analysis can be collected from different sources, for instance; interviews, focus groups, social media posts, lectures and courses or a collection of a natural occurring talk within a specific context. The data is more usually audio-based than text-based. For this analysis through this method, it requires identifying themes, narratives or language patterns that draw upon the participants' actions and experiences revealing how these patterns are being socially influenced (Wodak & Meyer, 2016). Subsequently, Discourse analysis goes either in concordance with the quantitative inquiry to provide deep complementary information, or in a sequential way. The latter denotes that discourse analysis can be the prior or the next following step to quantitative analysis. The order of the methods, here, depends largely on the researcher's intents, whether he/she aims to further explain trends or to inform the survey design (Creswell & Plano Clark, 2018).

In research, discourse analysis, as any other means of data collection and analysis, emerges to have a number of advantages as it expresses multiple challenges within the two research phases. One significant advantage is related to what can discourse analysis offer that other quantitative tools may overlook. Which means, and similarly to other qualitative tools, discourse analysis enables the researcher to capture the richness and the complexity of communication, providing a deeper understanding of the social contexts underlying quantitative findings. By examining language patterns and nuances, this strategy can draw upon meanings and attitudes that would be difficult to reveal via quantitative assessment alone (Gee, 2014). However, the risk to present a subjective interpretation of the discourse is likely to happen with researchers. Moreover, accommodating findings from discourse

analysis to reflect on the quantitative data is a very complex and challenging process, due to the nature of qualitative data that diverge widely from the quantitative one. Eventually, the process of discourse analysis is extremely difficult involving multiple steps of recording, transcribing, reading, coding, analyzing and interpreting. All of which makes, this method time-consuming as it also requires particular skills in interpreting the data (Fairclough, 2013).

3.5.5.1 Collection of Corpus for Discourse Analysis

To conduct discourse analysis, the first step is to gather a suitable corpus, which refers to a collection of spoken or written texts that are gathered for the aim to be systematically analyzed and interpreted. In this case study, the corpus is derived from ten (10) EMP sessions within second year pharmacy students at the faculty of medicine, university of Sétif 1. The focus in this corpus lies on the teacher's discourse as a primary point, with little focus on the teacher-student interactions. These sessions showcase the interaction between English and French, and sometimes between English, French and Arabic or Algerian Arabic. The intended aim from gathering such data is to investigate how teachers code-switch during EMP instruction and to explore and examine the functional roles of these switches in an EMP classroom. This corpus will offer rich contextual and linguistic elements, enabling a detailed exploration of language practices in the specialized setting of medical English instruction in Algeria.

3.5.5.2 Role of Discourse Analysis in Mixed-methods Approach

As mentioned earlier, discourse analysis in mixed-methods studies, can play multiple roles, either complementing or enhancing quantitative findings. In this investigation, and from a Qualitative perspective, this method focuses on examining code-switching instances used by teachers in EMP sessions, to reveal the different functions that code-switching serves in the classroom. by doing so, discourse analysis will help the researcher interpret the reasons behind these teaching practices as well drawing upon its potential impact on students' learning.

Methodologically speaking, discourse analysis procedure can either precede or follow the quantitative phase. Henceforth, discourse analysis, in this research, comes after the quantitative phase to provide a comprehensive explanation of code-switching patterns and how they impact the students' comprehension within different levels of language learning. In other words, quantitative data is collected via questionnaires measuring pharmacy students' difficulties and comfort levels with medical English, and assessing the teachers practices within EMP instruction. Subsequently, discourse analysis emerges as a complementary step to reveal the different functions of code-switching and how these functions can impact the teaching and learning process of EMP. For instance, while students' questionnaire reveals that students feel more comfortable when learning EMP through English/French code-switching, discourse analysis could reveal the functional roles teachers switching plays to make students more engaging and less intimidated in the learning process, or through revealing code-switching practices that instructors perform to facilitate and enhance learners' comprehension. In this respect, the functional roles of code-switching; whether pedagogical or non-pedagogical, can be best understood through discourse analysis.

Using a mixed-methods approach that incorporates discourse analysis of a corpus from ten EMP sessions allows the researcher to explore why and how EMP teachers code-switch and the functional roles these switches serve. This integration provides a nuanced perspective that both explains and enriches quantitative findings, helping to understand the broader impacts of language practices in EMP instruction within particular medical settings.

3.5.5.3 Description of Discourse Analysis Procedure and Tools

In this study, the researcher attempted to gather a corpus from 12 EMP sessions, each four sessions presented by a different teacher. Since the primary aim is to collect representative data unveiling code-switching instances within the teachers' discourse, and as teacher two did not reveal a significantly high percentage of code-switching in his sessions _he rather depends on the monolingual approach to teach English_ the researcher reduced the number of sessions to ten, excluding two sessions from teacher two collection.

The second reason which led her to take this step, is the large amount of data which shows repeated patterns of code-switching between different sessions. Therefore, the researcher, and through 10 EMP sessions, could reach the saturation criterion, where no other instances or functions of code-switching between English and French were noticed.

The process of assembling the corpus took two months of data collection, where the researcher attended each week two different sessions. During the process, she depended on different tools to record the session, namely, her smart phone and laptop. Due to administration restrictions, she was not granted permission to record audio-visual data, though teacher one did not mind the use of a camera. Therefore, the ten sessions were audio-recorded and corpus was collected and saved for the data analysis phase. Despite the fact that the audio version is restricted to the voice of the speakers, and its limitations can significantly impact the data analysis, since, the researcher could not observe gestures or speakers or in some cases could not determine who is handling the floor (except for the teacher whose voice is clear), this version revealed audible, clear and highly accurate spoken discourse, especially the teachers' one. Moreover, being present during the full semester in the department of pharmacy made the researcher knowledgeable about certain practices within the EMP course, such as the content, the teaching methods, the students who participate in the classroom, etc. all of which helped her during the process of data analysis.

3.6 The pilot Study

Pilot study and pilot testing are both crucial procedures in any research project. The phase of pilot testing enables the researcher to check his/her data collection tools, in order to modify, refine or alter any component or part that creates a sort of confusion or ambiguity or is difficult to deal with from the part of participants. Therefore, this testing procedure is a preliminary stage set prior to the administration of the research instruments to the sample population. It consists of testing, first and foremost, the feasibility of the tools and whether, in their initial form, could operate genuinely to collect accurate reliable data.

While pilot study concerns all aspects of the research work and act upon different criteria, such as; feasibility, time, cost, risk or any other potential flaws within the research plan, methods or procedures that may affect the larger intended population (Lancaster, Dodd, & Williamson, 2004), pilot testing is a subsequent stage that concerns testing the research instruments designed for collecting data. Thanks to the pilot testing, the researcher has the opportunity to pre-test and adjust his/her tools, by fixing any problems within the content or the form, so as to administer a better refined version.

In the present study, both pilot study and pilot testing were significantly important to handle, prior to the operation stage. The researcher, a month before initiating her research project, developed a process to conduct a pilot study. As mentioned earlier, an informal classroom observation and an informal focus group discussion have been employed to identify and verify the feasibility, the instruments to be used, and the teaching approaches and difficulties within EMP instruction. The following purposes set the plan of the pilot study:

- To select a pilot population that consists of 8 pharmacy students, chosen to participate in a pilot study (since they have participated in the pilot phase, the 8 students are excluded from the sample population of the study). The major aim of the pilot study is to provide necessary data for the researcher helping in the identification of the problematic issue and the refine of the research questions and hypotheses.
- To identify specific issues within the EMP classroom, such as the complexity of the content, the challenge of learning through monolingual approach, the language of instruction that may influence the learning process and the learning atmosphere. During this preliminary step, the researcher has not raised the problematic issue that may familiarize the sample group with the research content and focal topic that is going to be investigated.
- To set the general design of the work that accommodates the target population in terms of the possibility to raise quantitative and qualitative investigations taking into consideration times restrictions, the overwhelming program of second year

pharmacy students and how to manage an outlined methodology abiding these constraints and conditions.

- To refine the research questions and hypotheses based on the primary data that the researcher gathered through the pilot study.

As far as the phase of pilot testing is concerned, the researcher depended on a small group of 8 pharmacy students and one teacher from another faculty, to test the primary versions of the questionnaires and the teachers' semi-structured interview. Pilot testing the questionnaires and interview guides is an essential step in refining the data collection instruments taking into consideration that these tools should be clear, reliable, and effective. Therefore, the procedure is as follows:

- The objective of pilot testing is to ensure that the questions are comprehensible, clear and appropriate for the teacher as well as pharmacy students. This step helps the researcher identify any ambiguities, irrelevant questions or technical issues, for instance, the length or number or types (close-ended vs open-ended) of questions may cause a refrain from answering or results in an incomplete process through leaving some questions without answer.
- The second step is to prepare the necessary tools for pilot testing procedure. Subsequently, the researcher developed two different forms of questionnaires and two different forms of interview guides.
- The third step is to conduct the pilot testing of data collection tools. Therefore, the students' questionnaire was administered to 8 students by the researcher who opted for clear instructions on how to fill out this tool. For the teachers' questionnaire, a version was sent to a colleague working in the department of English language, so as to have constructive feedback on the form and the content of this tool.
- During the procedure, the researcher allows the students to complete the questionnaires each independently, taking into consideration the time spent in this operation. Through the process of observing, the researcher attempts to witness any difficulties or signs of confusion that students may manifest during the act. The researcher, also, encourages participants to highlight unclear questions and to write down the difficulties they experience while answering the questionnaire.

- The pre-final step consists of collecting the necessary feedback from the pilot testing phase and to draw on these findings to refine and adjust the final adapted version of the tools.
- The final step, eventually, is to revise and refine the questionnaires and interviews (focus group for students) so as to remove any redundant inquiries and modify any ambiguous or difficult questions and finally to adapt a simple adequate language that suits the students' level and degree of comprehension.

As far as the interview and the focus group discussion are concerned, the same procedure was employed with slight differences in administration and testing procedures. The pilot testing of the focus group was conducted with four students out of the 8 who participated previously in filling the questionnaires. Whereas, a face to face interview guide took place with the same teacher who has undergone the pilot testing of the teachers' questionnaire. Results from testing the four quantitative and qualitative tools helped the researcher in reformulating and refining the questions to best suit the research objectives. This phase of pilot testing was critical to the researcher, since it enabled her to adapt coherent data collection tools, in terms of form and content, that are both effective and well-targeted to capture meaningful data about the topic of investigation.

3.7 Data Analysis Methods

Since the researcher adopted a mixed-methods approach, she made use of a number of tools and techniques to analyze the collected data. Quantitative data, which was gathered via students and teachers' questionnaires, and via discourse analysis, were analyzed using descriptive statistics. The generated data, henceforth, were assessed via statistical package for social sciences (SPSS, version 25.0) software. The latter was employed to analyze and interpret different sets, such as, frequency, percentages, measuring Likert scales, formulating tables and figures based on the findings. Subsequently, Excel was also used, particularly with discourse analysis, to design a number of graphs and tables representing the final data.

Analyzing the qualitative part of data, however, was a complicated and a time-consuming process. The researcher made use of a semi-structured interview dedicated to collect data from teachers, a focus group discussion combining both a teacher and students and a discourse analysis of a formed corpus. The data generated from these tools were analyzed manually, however, the researcher depended on her smart phone and laptop in the audio-recording phase, while she used TurboScribe, a transcription platform that provides highly accurate transcriptions with an estimated percentage of 99,8% accuracy. This powerful tool for transcription enables bilingual and multilingual transcription modes, where different languages occur within the same talk. Therefore, TurboScribe was the best tool to transcribe the audio corpus of ten EMP sessions into a written form. For the analysis of discourse, despite the fact that multiple automatic speech recognition (ASR) instruments that facilitates the task of analyzing and code the discourse are available, the researcher preferred to analyze the discourse manually _of course relying on the theoretical framework adopted by different researchers and scholars in the field_ since she has little knowledge about these tools, as they are very complicated and need experts or skilled researchers in the domain.

3.8 Ethical Considerations

In any research project, the researcher is required to adhere to a number of principles and standards throughout his/her research process. These guidelines are set to protect participants, to ensure integrity of the study and to establish the validity criteria. Subsequently, a number of ethical considerations are adhered to in this study.

3.8.1 Informed consent

Since the context of this study sets around university boundaries, more particularly, the faculty of medicine, department of pharmacy, an informed consent should be achieved, first by the administration of the faculty, then the target population of the study; instructors and students.

The first step prior to conducting a study within a formal setting, such as university, requires that the researcher should have the permission and the consent to do the investigation with the particular field and the target population. Henceforth, the researcher requested the higher authority, the dean of the faculty of medicine, to grant her permission to conduct PhD research within the department of pharmacy. Accordingly, the dean of the faculty of medicine at the university of Sétif 1 granted, enthusiastically, the desired content. As a second step, the researcher sought to have the administration consent and in parallel the schedule of the EMP course, the time and location of the handled sessions in addition to a number of information concerning the teachers, the curriculum and the syllabus. Once again, the administration granted the needed consent and offered valuable information to the researcher, facilitating his contact with the EMP teachers, as well as second year pharmacy students.

After the administration consent, the researcher opted for the instructors' consent and subsequently that of second year pharmacy students also. Accordingly, both EMP teachers who were teaching at the department agreed to conduct this inquiry, and later on, the newly recruited teacher was also involved in the research as she granted her consent to be part of and to continue the inquiry till the end of the first semester. From the part of students, the majority were willing to engage in and to be part of this study, however and due the fact that second year pharmacy studies have an overwhelming program, some of the students withdrew their participation for personal or educational purposes. The students' decision was respected and did not impact the procedure or the data collection phase due to the large number of students in second year pharmacy. Therefore, the researcher guaranteed a voluntary participation of the required sample population of 162 students from the total number (258) of students.

The researcher obtained a verbal consent from the part of the students to engage as active participants in her study. However, and after explaining the whole process, the methods to be employed and the procedure that she should follow, the researcher requested a written consent for both teachers. Therefore, the latter agreed and signed a formal paper to ensure their permission for attending the sessions, conducting the classroom observation, presenting the topic and providing brief description and clarification, if needed, during the

session, conducting a focus group discussion as well as recording four EMP courses with each instructor. However, for the semi-structured interview consent was verbally granted.

3.8.2 Confidentiality and Privacy

Before the administration of the research tools, the researcher discussed with the participants privacy and confidentiality matters. As a matter of fact, she ensured to both; students and teachers that their identities are kept anonymous and all information they provide is confidential and will be used only to serve the research inquiry. Subsequently, qualitative data, gathered through audio or audio-visual recordings, will be used to generate reliable analysis so as to answer the research questions and hypotheses. Therefore, the researcher guaranteed that all data is kept confidential and used only for the current research purposes. Accordingly, some parts of the collected corpus were censored to protect the privacy of sensitive information or discussion as well as the intimacy of the teacher and students' interactions. Only formal and informal parts that serve the research investigations are disclosed, based on the consent of both; teachers and students.

3.8.3 Avoidance of Harm

Prior to conducting any investigation, the researcher should take into account a number of considerations to protect participants from any potential psychological or physical harm. Given that this study concerns the attitudes and perceptions of students and instructors vis-à-vis language instruction, it holds a small inquiry about the language preference. Consequently, the researcher embraced a purely objective approach, when she engaged her participants (students), from different ethnic identities (Arabs, Kabyle, and others) in discussion about language preference, preventing any sensitive or cultural discussion that may lead to misunderstanding or emotional or psychological harm. Accordingly, she approached the participants in a way they do not feel judged discriminated against, based on their language choices. This point could be seen within some medical students who privilege the use of Arabic as a medium of instruction (MI) in medical studies.

Another important point as an ethical consideration, that should be taken into consideration, is the potential harm that could happen within the process of data collection. Accordingly, the researcher, and so as not to disturb or interrupt the natural teaching and learning process and environment, she handled this task to the teachers. The latter are the most knowledgeable about the when and how to administer the questionnaires and to assign a focus group discussion. consequently, both EMP teachers were responsible on the conditions of transmitting and taking back the students' questionnaire.

3.9 Limitations and Delimitations of the Study

While limitations are factors or potential weaknesses that may impact the research validity, reliability and generalizability of the study findings, delimitations denote the boundaries and limits of the study that the researcher chose to stop at or not exceed.

As far as this research is concerned, two major limitations constrained the investigation, first the sample choice and second the sample size. While it would have been better to investigate the phenomenon of English/French code-switching in EMP instruction within the three departments; medicine, dentistry and pharmacy, the research scope was restricted to the department of pharmacy. second, even though the sample population of students present a significantly high number that could be representative for generalizing the results to the whole population, the teachers' number in this study is significantly low -only six EMP teachers were included in this study- and therefore data cannot be generalized in this respect. Similarly, only three teachers adhere to have a semi-structured interview while the researcher opted to collect qualitative data from the six teachers. Another significant limitation concerns discourse analysis procedure, while the researcher intended to gather a larger corpus, teachers permitted his presence within pharmacy classes only during the first semester. It would have been better to investigate the topic through full academic year_ during the first and second semesters_ and to draw on the students' outcomes in the final test, so as to reflect a consistent measurement of the impact of code-switching on their learning skills. Other limitations are related to the course content and the teaching methods and approaches in EMP courses. While three teachers use a

structured, content-based instruction in their classroom, the other instructors present, a more like, general English course with little to no reference to medical content.

Concerning the study delimitations, one emerges as significantly related to the problematic issue raised in this investigation. The researcher, instead of examining how code-switching emerges as a teaching practice and a pedagogical strategy to enhance medical students' comprehension and learning outcomes, she could have investigated the impact of a monolingual-based approach of instruction on the learning comprehension and development of language' skills. The two ways are possible since both exist within the Algerian medical context, yet she opted for the first investigation due to the specificity of the context and the content, i.e., EMP within medical fields. The second reason is the significance and the status of French in medical fields, which led EMP teachers to adopt a new challenging alternation between two foreign languages, opting for a better understanding of the medical content, notably specialized-vocabulary and medical terminology, and attempting to provide students a similar context of learning to that of subject-specialists. For this reason, the researcher drew her line of inquiry based on the first problem.

On the basis of the limitations mentioned earlier, this study is delimited in scope to second year pharmacy students and EMP teachers in the faculty of medicine, university of Sétif 1. As it was mentioned, the choice could have been extended to other departments or different universities, however, the researcher, and for technical and professional reasons (already mentioned in this chapter) chose to work only with pharmacy department. Since there were no other grades, within this department, that have an EMP course, the only possibility was to tackle second year pharmacy students. another important point concerns the choice of languages in the alternation. While the majority of code-switched instances happened between English and French, due to the medical content, a small percentage of code-switching manifested three languages, English, French and sometimes Arabic (Algerian Arabic). Despite the fact that this study concerns, in its essence, English/French code-switching, other kinds of instances were also put under investigation.

3.10 Conclusion

This study was conducted in the faculty of medicine, department of pharmacy at Sétif 1 university, Algeria. Both, the context of the study and the content of the course serve the purpose of this enquiry in that the language of instruction emerges to manifest code-switching instances between English and French in the EMP course. A strategy adopted, by many teachers, to promote learning and facilitate understanding. As the aim is to investigate the impact of code-switching practices on EMP instruction and learning, and to reveal teachers and students' attitudes towards the integration of this phenomenon in the EMP course, the third chapter is set to outline the methodology employed to achieve these objectives, highlighting the research design, data collection phase and instruments and the data analysis methods and procedures. It also discussed ethical considerations, limitations, and delimitations. The methodology ensures that the research findings are reliable and valid, contributing to a deeper understanding of code-switching in EMP contexts.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

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4.1 Introduction

As a follow-up to the methodological design, an in-depth analysis discussion and interpretation of the results should be provided in this study. Therefore, this chapter is divided into three main sections; the first one consists of an exploration phase which exposes preliminary results of the conducted observation, in addition to the results of the placement test related to the students' proficiency level in English. Section two provides quantitative and qualitative data analysis and interpretations of the students and teachers questionnaires, interviews and focus group discussion (FGD). The analysis of the three research instruments are for point to unveil the attitudes and perceptions towards the use of English/French code-switching in the English for Medical Purposes course as well as the impact of this strategy on the learning and teaching process. The third section, however, exposes a thorough examination and analysis of the spoken discourse gathered from a number of EMP courses and related to teachers' talk and teacher-students' interaction. Hence, the discourse analysis part is set as a means to reveal the different pedagogical and non-pedagogical functions of English/French code-switching in the EMP course.

4.2 Section One : Exploration Phase

4.2.1 Observation

Prior to investigating the research questions, it was necessary to conduct an observation as a first step of the exploration phase. The latter is for point to reveal the teacher's and the students' behavior in the classroom, to observe the teaching-learning environment and to determine the general climate of the EMP course. Therefore, the researcher set out the following objectives to be the focus in this classroom observation:

- To determine the general climate of the course (motivating, demotivating, dynamic, passive, students' participation, etc.).
- To determine the teacher's language of instruction and the extent to which bilingual/multilingual discourse (English/French Code-switching) is used in the classroom.
- To observe the students' discursive practices (mainly the use of Code-switching) and the students' learning habits.

- To focus on the teacher-students interaction and the language employed by both; teacher and students.
- To determine whether English/French Code-switching is initiated by the teacher, the students or both.
- To observe the students' learning difficulties, the teacher's language and the teacher's discursive practices which may impact the students' learning habits.

To meet the objectives mentioned above, an observation template was designed to help the researcher focus on the target points, as well as an audio-recording process was adopted to support the phase of notes-taking. Since it is difficult to rely on memory alone, the researcher made use of audio-recordings to check and develop the field notes and to fill in any information gaps. Therefore, the audio-recording phase, which happened simultaneously with note-taking, was a supportive phase of data collection during the classroom observation. Moreover, it is worth remembering that the researcher conducted a classroom observation on two different teachers and four different classes. The classroom observation of four TD¹ sessions took one month, during which the researcher observed one session of 2 hours per week. For more details about classroom observation, the participants and the procedure, see chapter three of Research Methodology.

4.2.1.1 Results of Classroom Observation

Since the teaching experience and the teaching process differ from one teacher to another, the observation conducted on two different teachers revealed that, both teachers depend on English/French CS in the classroom but the extent to which CS is implemented and the reasons behind its use differ widely.

Teacher one is an advocate of English/French CS, he referred to the latter in many teaching situations, and for pedagogical and non-pedagogical reasons. The extent to which CS is used is highly remarkable in his sessions, since French is present from the introduction and warming-up to the conclusion of the course. It was also noticeable that his students were free to alternate

¹TD session (*Travaux Dirigés*) is a course presented by a teacher to a small group of students in a classroom. It is worth mentioning that the form of the EMP course differs from one department to another, for instance, in pharmacy, the English course is presented as a TD session of small groups in which the attendance of students is compulsory, however in Dentistry and/or Medicine, the English course is a sort of Lecture that takes place in an amphitheatre which gathers all the students, yet their attendance remains facultative.

between English and French whenever they felt the need to do so without any restriction or prohibition from their teacher. Teacher one encourages students to speak English yet he allows their dependence on CS in certain situations, for instance to support their verbal production and most of the time to overcome the obstacle of lexical gaps, when they do not know the word or the expression in English.

Teacher two, though there are signs of English/French Code-switching in his course, is very careful when he deals with French. Unlike teacher one, teacher two does not permit the absolute use of En/Fr CS in the classroom, he rather encourages students to use English even if they do not know the right word or the right expression or even if they commit mistakes. He tries to grant advantage to English and to concentrate more on how to learn and advance in this language rather than to teach English for medical purposes via a medium of instruction. However, it was inevitable for teacher two to rely on and to refer to En/Fr CS when students struggle with understanding or when he presents a new medical content. Furthermore, the observation of two sessions showed that teacher two had an attempt to limit as much as possible the use of French from the very beginning of the course.

To reflect on the learning atmosphere of the EMP course, the researcher, during a month of observation, made use of a checklist to observe and check the different aspects of the course (see table 1 below, a representative example of the first session that was observed). The four sessions revealed that the majority of students are passive receivers of information, especially when the teaching is in a monolingual style (in English). Even though, both teachers try hard to stimulate students to be active and to take part in discussions, only few and generally the same students who try to participate in English, and when they fail they switch to English/French CS and sometimes they get refuge in their mother tongue (Algerian Arabic).

During the four sessions of observation, students manifested a number of difficulties in learning English. The majority of students showed that they suffer from a number of comprehension issues like vocabulary and listening. Despite the fact that both teachers try to use a simple and an audible language, students find it difficult to understand their talk. They also struggle to grasp most of the vocabulary presented in the course and/or to listen to and to comprehend a content in English. Students were equivalently unable to engage in conversations or to interact with the teacher or the students in the classroom, since their speaking skills are of low average. The observation also revealed that students ask for and resort to French to solve their comprehension issues, and for this reason teachers find it necessary to switch to French to support their teaching process and to boost their students' understanding.

Table 4.1*Classroom Observation Checklist (results of the 1st session observed)*

Themes observed	Not at < _____ > To a great				
	All				Extent
	1	2	3	4	5
Course Structure					
- Objectives clearly stated at the beginning of the course				✓	
- Course structure (introduction to conclusion) well-organized/well-presented				✓	
- Summarizing main points and directing students towards next course' preparation/tasks			✓		
Course General climate					
- Students motivated and interested in the course			✓		
- The atmosphere dynamic and participative			✓		
Course Content & Materials					
- Course content well-organized/well-presented				✓	
- Tasks and assignments well-explained/clarified			✓		
- Illustrations/examples well-presented/clarified			✓		
- Materials well-designed and relevant to the course				✓	
- Use of instructional aids (audio-visual tools,..)				✓	
Language of Instruction					
- Teacher's language simple audible and clear				✓	
- Language alternation (from En to Fr) present in teacher talk				✓	
- Language alternation (from En to Fr) effective/not distracting			✓		
Teacher-Students Interaction					
- Students encouraged to participate in different discussions				✓	
- Students granted the opportunity to talk/share their opinions/comments			✓		
- English talk is solicited/encouraged yet CS is accepted				✓	
- Teacher's talk dominates the course with little/no interaction				✓	
Learning difficulties					
- Students are demotivated/not willing to learn English		✓			
- Students are unable to understand the content in English				✓	
- Students are passive receivers of information				✓	
- Students comprehension issues is due to their weaknesses in English					✓
Comments: En/Fr CS is present in all aspects of the course, teacher 1 uses it to support the teaching-learning process; to better explain and simplify information as to deal with comprehension issues, when students struggle to understand the content. Though students seem to be interested to learn English, their limited level and weaknesses make them passive receivers, the first reason which leads teachers to use French in the classroom...					

4.2.2 Placement Test Results

Prior to the EMP course, teachers of English attempted to check the students' proficiency level, to determine their strengths and weaknesses in the different language skills, and to detect whether they have a homogeneous or a heterogeneous class in terms of the students' English level. Therefore, two EMP teachers conducted a placement test with their groups and shared the obtained results with the researcher. Accordingly, the test unveiled that the majority of students (more than 70%) have an intermediate level (B1), whereas the minority (less than 20%) are beginners (between A1 and A2). Surprisingly, a small category of students (less than 10%) displayed a significantly good level in English, since they achieved a B2 score which is equivalent to an upper-intermediate level. Yet, it is worth mentioning that the placement test tackled only three skills; vocabulary, grammar and reading.

As an additional step, to crosscheck the results of the students' placement test and to further examine their level in listening comprehension, reading comprehension and writing, the researcher proposed an online placement test. Therefore, small groups of about 20 students, accompanied by the teacher and the researcher, went together to the internet room where they applied for the test. Once students received an email for the test scores, they forwarded the latter to the teacher's and the researcher's emails (for more details on the online placement test see Appendix -C-). Accordingly, after collecting data from the online test, the researcher compared and analyzed the results and sorted out the graph mentioned below. Yet, it is worth mentioning that the latter, which demonstrates the students' proficiency level in English, represents only the sample population involved in this study i.e., 162 pharmacy students. Additionally, in spite of its significant importance, speaking skills were neglected in both tests due to the fact that testing this kind of skills requires effort and time, especially when we take into consideration the large number of students involved in this study. Instead, the students' speaking skills were examined via the students' questionnaire, where they had to determine their estimated proficiency level in this skill.

Figure 4.1

Students' Proficiency Level in English

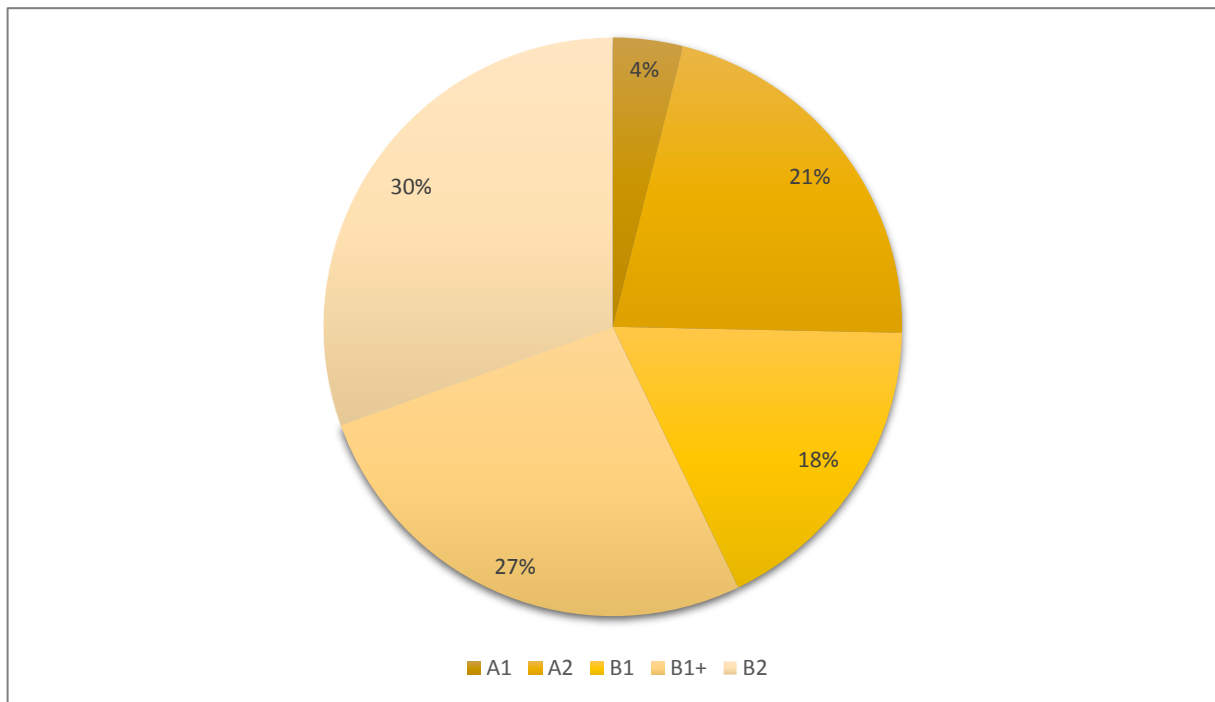


Figure 4.1 revealed that 45% or 73 pharmacy students who took part in this investigation hold an intermediate level. However, about 40 students (25% of the sample population) are beginners since they have between A1 and A2 elementary level.

4.3 Section Two: Quantitative and Qualitative Data Analysis

In this section, the researcher presents, analyzes and interprets both; quantitative and qualitative data related to this inquiry. Therefore, section two is structured and divided into two distinct parts:

4.3.1 Part One: Quantitative Data Analysis

The first part focuses on the systematic examination of numerical data collected through structured instruments, in this case; students' and teachers' questionnaires. The analysis aims to identify patterns, relationships, and trends that address the research questions. Accordingly, the students' questionnaire is the first data collection tool to be analyzed and interpreted in this part.

4.3.1.1 Students' Questionnaire

I. Background Information

1. Gender

Table 4.2

Number of Male and Female Pharmacy Students

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	34	21,0%	21,0%	21,0%
Female	128	79,0%	79,0%	100,0%
Total	162	100,0%	100,0%	

About 80% of the sample population who took part in this study are female participants, whereas around 20% are male participants. It should be noted that the choice of the sample population is based on a random selection according to simple random sampling technique (for more details see chapter three of research methodology).

2. Age

The majority of pharmacy students have an age range between 18 years old and 22 years old, whereas 17 students have an age range between 22 years old and 25 years old and only two students are over 25 years old.

Table 4.3

Age Range of Pharmacy Students

	Frequency	Percent	Valid Percent	Cumulative Percent
18-22	143	88,3%	88,3%	88,3%
22-25	17	10,5%	10,5%	98,8%
Over 25	2	1,2%	1,2%	100,0%
Total	162	100,0%	100,0%	

3. Language Fluency of Pharmacy Students

Table 4.4*Students Language Fluency*

	Frequency	Percent	Percent of Cases
Fluent in Arabic	158	39,1%	97,5%
Fluent in French	146	36,1%	90,1%
Fluent in English	61	15,1%	37,7%
Fluent in other languages (Berber)	39	9,7%	24,1%
Total	404	100,0%	249,4%
LF^a Case Summary	162	100,0%	/

Note. a. Dichotomy group tabulated at value 0. LF refers to Language Fluency

Almost 98% of students stated that they are fluent in Arabic, however only four students claimed that; due their ethnic background they do not speak, use or interact in Arabic. A significant majority of 90% claimed that they are also fluent in French. Moreover, around 38% of students stated that they are fluent in English. Besides, 39 students who have a Kabyle origin are obviously fluent in Berber; their mother tongue.

II. Schooling Information

4. Students' experience in learning English from school to university

Throughout their educational path, the majority of pharmacy students have studied English for 8 years, whereas, a less category had an experience of nine years of learning. (See table 4.5 below)

5. Students' experience in learning French from school to university

The students' learning experience of French varies from 10 years to 12 years, from school to university. 56% of the population have studied French for 12 years, whereas the remaining were divided between 10 and 11 years. (See table 4.5)

6. Medium of Instruction throughout the educational path

Students answers, when asked in what languages they were taught during their educational path, revealed that, a minority (39 students) have been learning via Arabic French and Berber. However, the majority (123 students) revealed that the medium of instruction from school to university was an Arabic/French code-switching. The highlighted difference is explained when referring to the ethnic identity of students. Since some, who were studying in

the department of Pharmacy at Sétif university, are Kabyle from the region of Béjaia in which Berber is their mother tongue. Accordingly, the latter is used in schools and tertiary levels.

Table 4.5

Language Experience and the MI from School to University

		N	%	Cumulative %
English	8 years	130	80,2	80,2
	9 years	32	19,8	19,8
	10 years	36	22,2	22,2
French	11 years	35	21,6	43,8
	12>	91	56,2	100,0
MI	Arabic/French	123	75,9	100,0
	Arabic/French/Berber	39	24,1	24,1
Total ^a		162	100,0	100,0

Note. (a) indicates the total number of each case in the three cases mentioned in the table

III. Language as a Medium of Instruction

7. French proficiency level of pharmacy students

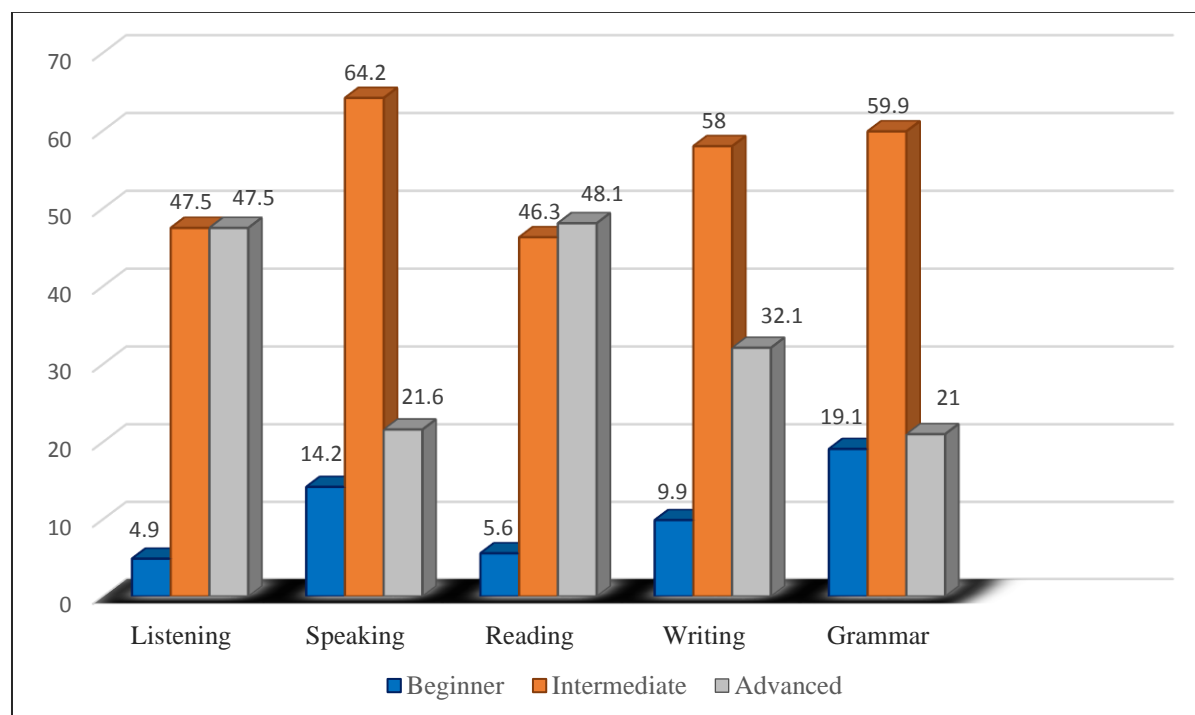
Before asking pharmacy students about their estimated proficiency level in French language, they were asked whether they have undergone a professional language test before or never. Results showed that less than 15% or around 24 students said yes whereas around 85% replied negatively. Therefore, results shown in figure 1 below are highly based on the students self-estimated evaluation.

Pharmacy students demonstrated a balanced Intermediate level over the skills mentioned in figure 4.2 below. Around 47% of them claimed to have an intermediate level in receptive skills i.e., listening and reading. About 60% proclaimed an intermediate level in writing and grammar, and more than 64% are intermediate in the speaking skill. Hence, more than half of the sample population (55,1%) is intermediate. However, less than 11% of students are estimated to have a beginner level in the five skills (figure 4.2) indicating a small percentage of around 5 % in listening and reading. Nevertheless, a significant number of students (around 48%) claimed to have an advanced level in receptive skills, however 21% of students have an advanced level in speaking and grammar, and about 32% are advanced in writing.

Overall, results showed that students have a good command of French language mainly in listening and reading. In addition, students overtly expressed their pre-eminence in verbal competence since around 86% are between intermediate and advanced. It is worth mentioning that students' proficiency level in this language is related to different factors. The admission to the faculty of medicine requires a high average in the baccalaureate exam, therefore the majority of pharmacy students are from the elite who show a significant high educational level and high scores in most subjects. Moreover, students who attempted to enter the faculty of medicine are aware of the necessity and the inevitability of French in this domain, this is why some of them have received extra courses to develop their skills in French. Some others claimed that they have been raised in a rich linguistic environment where French is frequently used as a language of communication (e.g. Berber region), whereas others stated that they obtained a good level in French thanks to their educated parents²; mainly those who work in the medical field.

Figure 4.2

Students French Proficiency Level



² Though the new generation of Algerians is heading towards English as the language of science and development, the belief that a well-educated person is the person who masters French and use it frequently in communication is still persistent in the Algerian society, and we can frequently hear that the person who speaks French like his educated parents for example who are doctors, is regarded as an educated person.

8. What is the medium of instruction in pharmacy studies?

Students replied that they study most of pharmacy modules in French so, the latter is the medium of instruction and the dominant language in the classroom. Yet, a mixture between French and Arabic is also occurrent in teachers' spoken discourse. Students estimated that French represents about 80% of the teachers' language of instruction while around 20% of the spoken discourse is a French/Arabic code-switching.

9. Within pharmacy modules, when do you feel yourself comfortable?

Table 4.6

MI that makes students Feel comfortable in learning Pharmacy Modules

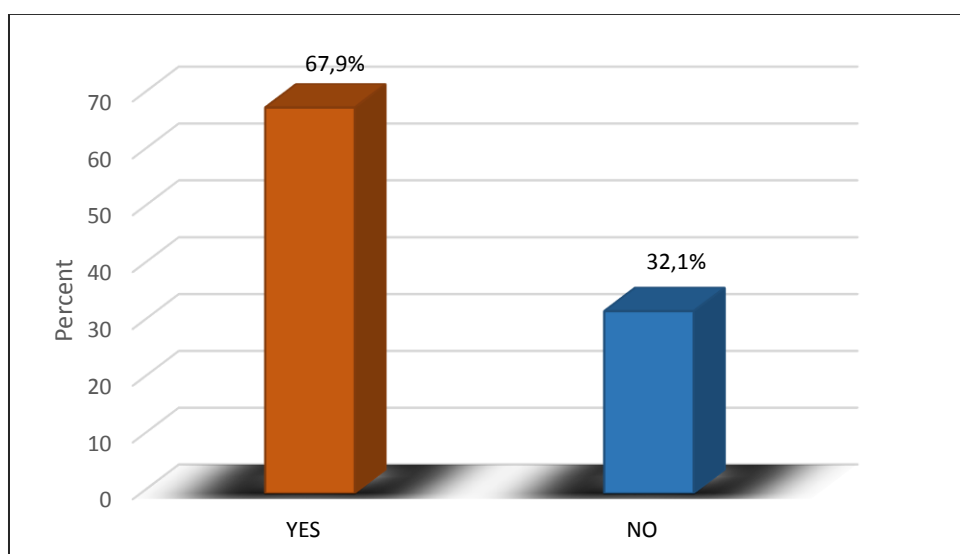
	Frequency	Percent	Valid Percent	Cumulative Percent
French	64	39,5%	39,5%	39,5%
French and Arabic	98	60,5%	60,5%	100,0%
Total	162	100,0%	100,0%	

Despite their good level in French, 98 students (more than 60%) stated that they would feel more comfortable if they study pharmacy modules via French/Arabic codeswitching. However, around 40% declared to feel comfortable when teachers use only French as MI in pharmacy courses.

10. Would you prefer to study pharmacy modules in English?

Figure 4.3

English as Medium of Instruction in Pharmacy



The majority of students (68%) replied positively to the hypothetical question of whether they would prefer to study pharmacy in English. However, 32% of them preferred to keep the same order and way of studying.

11. Why do you prefer to study or not to study pharmacy in English?

Table 4.7

Students Justification for Language Preference

	N	%	Cumulative %
to cope with the international level of studies and to have credibility abroad.	37	22,8	54,9
Studying in English is easier than studying in French.	21	13,0	100,0
Documentation is more available in English.	33	20,4	75,3
English is the language of science.	19	11,7	32,1
English makes the course more difficult.	33	20,4	20,4
I do not master English.	19	11,7	87,0
Total	162	100,0	

Students justification for their MI preference varied widely. 37 students mentioned that the most noticeable argument for choosing English as MI is to cope with the international level and to have more credibility outside Algeria. Moreover, 21 students claimed that it would be easier to study in English rather than French. According to them, English is an easy and a dynamic language to learn. 33 students chose English because most of the documentation is available in this language. so, studying in English makes students more interested to learn the language rather than doing tremendous effort to translate from English to French. 19 students also chose English as MI due to its impact and worldwide recognition as the language of science, this is why it would be preferable to adopt it as a means of study, mainly in the medical field. However, rejecting English as MI was either because students estimated that English is a hard language and may cause problems of comprehension or because of their low proficiency level in this language.

12. What language/s is/are used by the teacher of English in the EMP course?

Table 4.8*Language/s of Instruction in EMP Course*

	Frequency	Percent	Cumulative Percent
English	52	32,1%	32,1%
English/French	79	48,8%	80,9%
English/French/Arabic	31	19,1%	100,0%
Total	162	100,0%	

The majority of students (around 70%) study the EMP course via code-switching. Approximately half of the sample population (49%) receives the EMP course in English/French code-switching, whereas about 19% of students receive not only English/French but also a little of Arabic in their course. However, 32% of students stated that the EMP course is taught in a monolingual style where the teacher insists on the use of English only. The diversity of the teaching style is explained by the presence of three different teachers in the department of pharmacy. Obviously, each teacher, depending on his/her own preferences and arguments, adopts a particular way of teaching.

13. In EMP course, when do you feel yourself comfortable?

More than half of the participants expressed their comfortability when the teacher depends on English/French code-switching to teach the EMP course. Additionally, 17% of participants expressed the same feeling when the teacher uses also Arabic in the teaching process. However, 32% of students feel themselves more comfortable to learn English via a monolingual style. The percentage of students in each category here is more or less similar to the percentage of the case mentioned in the previous question. i.e., all students, whether they study in a monolingual style or via code-switching, they feel themselves comfortable and cope with their teacher's style and language of teaching.

Table 4.9*Feeling Comfortable in EMP Course*

	N	%	Cumulative %
When teacher uses English	52	32,1	32,1
When teacher uses English/French CS	82	50,6	82,7
When teacher uses English/French/Arabic CS	28	17,3	100,0
Total	162	100,0	

IV. Approaches to EMP Learning

14. In EMP course, do you switch between languages when you talk, interact and/or express yourself?

Table 4.10

Students Code-switching in the EMP Course

	Frequency	Percent	Valid Percent	Cumulative Percent
YES	139	85,8%	85,8%	85,8%
NO	23	14,2%	14,2%	100,0%
Total	162	100,0%	100,0%	

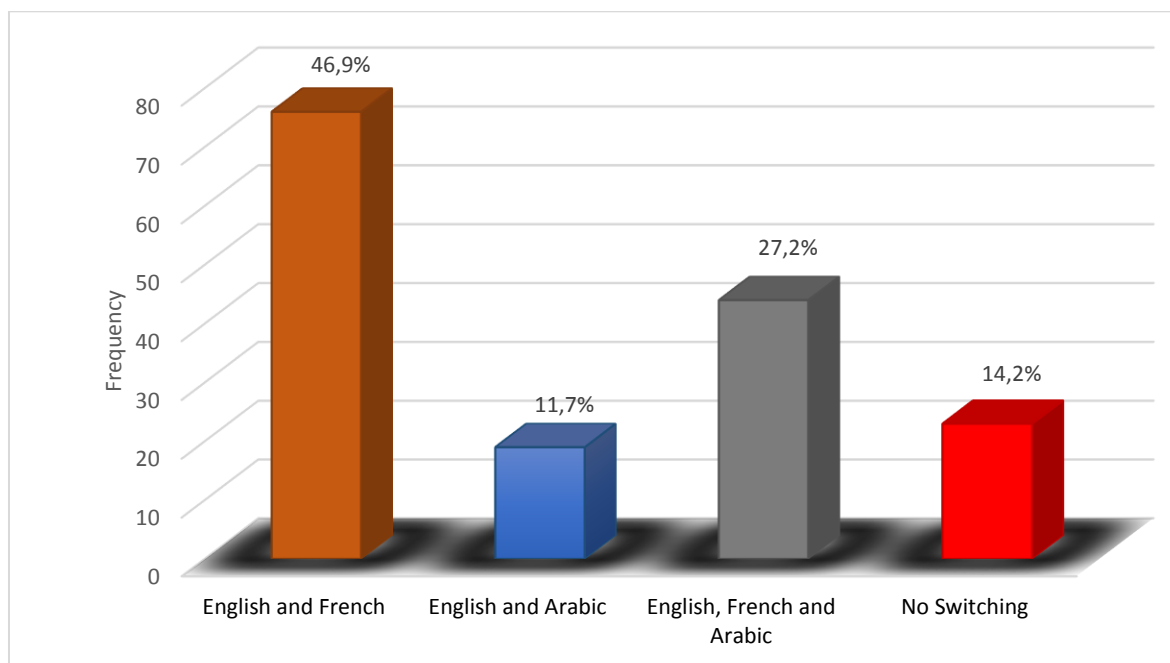
The vast majority of students (around 86%) depends on code-switching to learn English for medical purposes, however only 23 students claimed that they use only English when they talk or interact with the teacher and/or students. It is worth mentioning that even though one of the teachers adopts a monolingual style in his teaching and recommends the use of English in his classroom, some of his students tend to use code-switching when learning English.

15. In EMP course what language/s do you use to learn and interact with your teacher and classmates?

About 86% of students confirmed that they use and depend on code-switching in the EMP course, but only 14% adhere to the monolingual style and prefer not to switch between any languages when learning English. From the larger category, students are subdivided into; those (47%) who prefer to use English/French, those (around 12%) who depend on English/Arabic and most of the time dialectal Arabic and another category (27% of students) who uses a combination of three languages in their spoken discourse; English French and Arabic (see figure 4.4 below).

Figure 4.4

Students Language/s in the EMP Course



16. why do you switch from English to French in the EMP course?

Table 4.11

Reasons for Students CS in the EMP Course

	N	%	% of Cases
I'm not fluent in English	41	12,2%	28,3%
I'm not confident to speak English (intimidation issues)	53	15,7%	36,6%
I use CS to avoid committing mistakes in English	67	19,9%	46,2%
I use CS to compensate for the lack of vocabulary in English (lexical gaps' issue)	49	14,5%	33,8%
I use CS to emphasize my ideas	35	10,4%	24,1%
I use CS to cope with teachers and classmates	38	11,3%	26,2%
I got habituated since French is the MI in pharmacy	54	16,0%	37,2%
Total	337	100,0%	232,4%
Cases: Valid	145	89,5%	/
Missing	17	10,5%	/
Total	162	100,0%	/

Students provided different reasons for their dependence on code-switching in the EMP course. About 20% of them use English/French code-switching to avoid committing mistakes when they speak English. This may happen due to their low level and/or lack of experience to use English, in addition to their limited grammar and pronunciation. 16% of students, however, claimed that using French became a habit since they study all subject modules in French (MI), so they became accustomed to use this language. Moreover, less than 16% argued that their inclination towards CS is due to intimidation issues and the lack of confidence when using English alone. A minority (12%) correspondingly, claimed that they use CS because they are not fluent in English or they cannot handle a discussion in full English. Therefore, they felt themselves obliged to switch to French to fulfil the purpose of discussion and to convey full meaning to both teacher and classmates. Another 15% of students believed that CS may be used as a stopgap, when they struggle with lexical gaps and/or when they lack the appropriate vocabulary. This is why, they use French to compensate for the missing words or expressions in English, and through this way they gain time and effort. Others (10%) argued that their use of CS is for the sake of emphasis. Even though they depend on English, sometimes they feel the need to repeat an information or a word in French to emphasise information. The last category (11%) stated that they use CS as a sort of imitation to their teachers and classmates. i.e., CS is used for solidarity and social belonging reasons (more details about this point will be discussed in the qualitative part of this study).

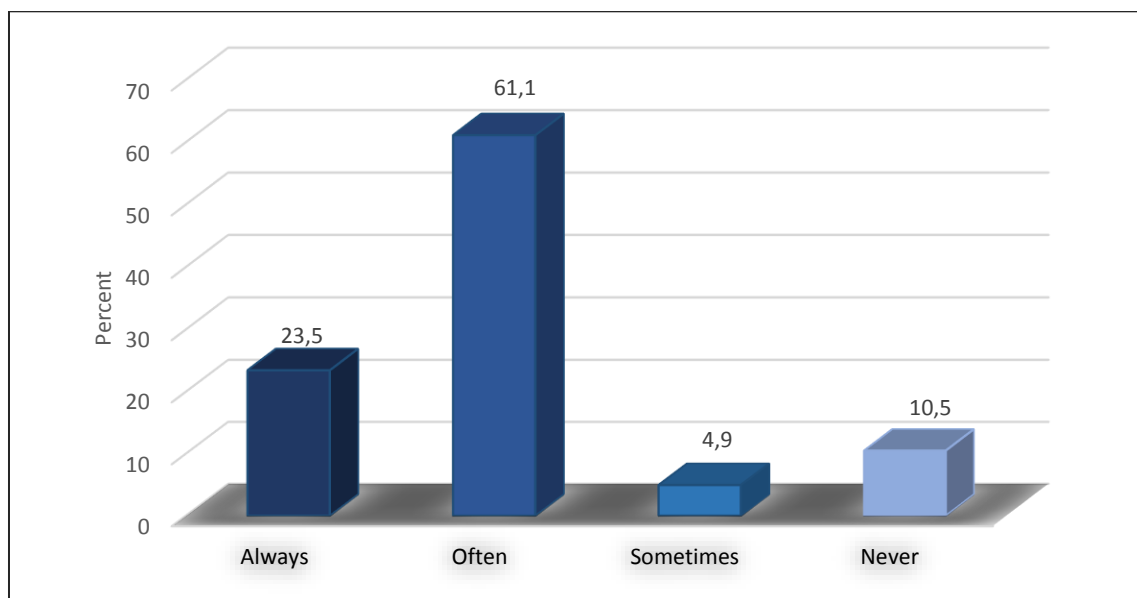
V. Approaches to EMP Teaching

17. how often does your teacher switch from English to French in the EMP course?

In EMP course, the vast majority of students (about 85%) stated that they noticed a frequent and a recurrent use of English/French code-switching in the teachers' spoken discourse. 61% claimed that it happens often whereas around 24% declared that teachers regularly use CS, which makes its appearance in every single session inevitable. Only 10% of them, however, perceived no occurrence or dependence on CS in the classroom. therefore, some students stated that their teacher adopts a monolingual style of teaching (see figure 4.5 in the coming page).

Figure 4.5

Frequency of Teachers' CS



18. Why does your teacher switch from English to French in the EMP course?

Table 4.12

Reasons for Teachers CS in EMP Course

	N	%	% of Cases
To provide a better explanation of the content	138	43,4 %	89,6 %
To check students' comprehension	81	25,5 %	52,6 %
To attract students' attention	35	11 %	22,7 %
To compensate the lack of vocabulary	27	8,5 %	17,5 %
Teachers provide equivalents and expressions in French to save time and effort in explanation and illustration	27	8,5 %	17,5 %
To show his/her mastery of French Language	10	3,1 %	6,5 %
Total	318	100,0 %	206,5 %
Cases: Valid	154	95,1 %	/
Missing	8	4,9 %	/
Total	162	100,0%	/

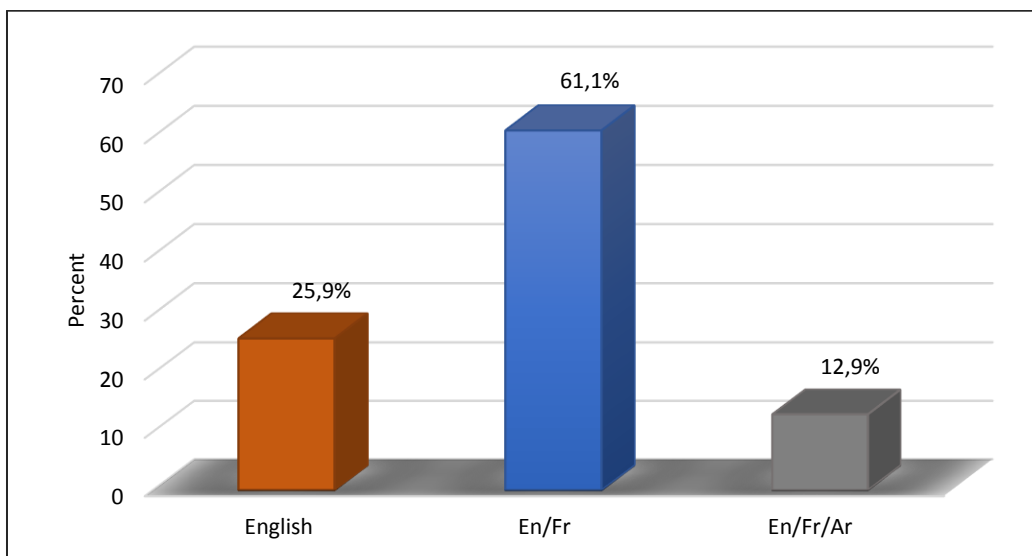
From the point of view of students, teachers use English/French CS for many reasons, but mainly to serve pedagogical purposes. A significant number of students (about 44%)

claimed that teachers use CS to provide a better explanation of the content they teach. Plus, 81 students stated that teachers use CS to check if students have understood the content or there is a necessity to repeat information in French for a better comprehension, therefore CS is also used to emphasise the content. moreover, 11% of students said that CS is used to attract students' attention during the course. However, less than 9% believed that teachers use CS either as a time and an effort-saving strategy or as a stopgap to compensate the lack of vocabulary in both languages. Besides, very few students (only 3%) claimed that teachers use CS for non-pedagogical reasons also, such as to show his/her mastery of French to medical students. This reason, according to students, is strongly related to the prestige that French has among the staff in medical fields.

19. In which language would you prefer to study the EMP course?

Figure 4.6

Students' Preference for the Language of EMP Course



At the conclusion of this section, and prior to addressing participants' attitudes towards English/French code-switching, the researcher interrogated the students about their language preference when learning English for medical purposes. The responses indicated that 61% of participants favored and instruction based on En/Fr CS, while nearly 13% of them opted for a code-switching between three different languages, i.e., in addition to English and French, students feel the need to have an instruction based on the use of their mother tongue (dialectal Arabic). Meanwhile, around 26% leaned towards a monolingual approach rather than CS.

VI. Students Attitudes towards the Use of English/French CS in EMP course

The researcher set three different Likert scales to analyze and interpret the different perceptions and attitudes towards English/French code-switching. While, the first Likert scale reflects the students' views on the positive impact of teachers' English/French code-switching, the second scale captures the students' attitudes towards the possible negative impact of this phenomenon on the process of learning. However, the third scale, outlined in Table 4.15, addresses students' attitudes toward the proposed application of teachers' English/French code-switching in the teaching and learning of an EMP course.

Table 4.13

Students' Attitudes towards the Positive Impact of Teachers En/Fr CS

	N	Mean	SD
20. Teacher En/Fr CS provides a better explanation of English and facilitates the understanding.	162	3,9012	1,08181
21. Teacher En/Fr CS enhances the vocabulary comprehension of students.	162	3,5370	1,00396
22. Teacher En/Fr CS improves the vocabulary amount (number) of students.	162	3,4444	,99689
23. Teacher En/Fr CS helps students to easily learn/retain medical terminology especially through French equivalents.	162	3,8395	1,13068
24. Teacher En/Fr CS is a time-saving and an effective strategy to boost the general and the medical vocabulary.	162	3,4815	,99827

Note. 5 Strongly Agree (SA), 4 Agree (A), 3 Neutral (N), 2 Disagree (D), 1 Strongly Disagree (SD)

The researcher found that the overall mean of the five items regarding the positive impact of En/Fr code-switching is 3.64. This indicates that most participants agree that the teacher's use of En/Fr code-switching positively influences their process of learning English, especially in terms of vocabulary comprehension and the understanding and the retention of medical terminology. For instance, the majority of students agreed, with a mean of 3.83, that teachers' En/Fr code-switching boosts the learning and the recall of medical terminology. Similarly, a mean of 3.90 was observed, showing an agreement from a significantly large number of students that En/Fr code-switching may improve their target language learning as well as, it can enhance their target language comprehension.

Table 4.14*Students' Attitudes towards the Negative Impact of Teachers En/Fr CS*

	N	Mean	SD
25. En/Fr CS may lead students to use the wrong vocabulary (false friends)	162	2,6481	,95535
26. En/Fr CS hinders students' potential of learning authentic English	162	3,0247	1,18453
27. En/Fr CS makes students confused and overwhelmed by vocabulary parallels	162	3,2160	1,04388
28. Students' reliance on Fr/En CS may weaken their ability to be fluent in English	162	2,8827	1,11670
29. En/Fr CS may demotivate students through reducing the opportunity to have a course in full English	162	3,0123	1,10329

Note. 5 Strongly Disagree (SD), 4 Disagree (D), 3 Neutral (N), 2 Agree (A), 1 Strongly Agree (SA).

As a result of the data mentioned in the table above, and after determining the overall mean of the items denoting the negative effect of code-switching in learning English for medical purposes, most participants revealed a neutral position, with a mean equivalent to 2,95. The latter indicates that students could not decide on whether to consider this phenomenon as a language obstacle and/or a barrier that may sabotage their language learning. For instance, a significantly large number of students expressed their neutrality vis a vis the possible shortcomings of teachers' English/French code-switching, for instance, limiting their ability to learn English or affecting their fluency. Similarly, when questioned about the potential confusion caused by existing similar words³ in both languages; such as "sensible" which holds the meaning of sensitive in French, while in English sensible is reasonable, participants chose to be neutral.

³ By similar words we refer to either 'false friends' or 'false cognates' i.e., the same words that may occur in two or more languages but have different meaning. The former refers to similarly existing words in English and French that look or sound similar as they may have a common origin, like *sensible* in French and *sensible* in English. False cognates, however, refer to words which sound or look similar in both languages but do not share the same etymology, for instance; *coin* in English and *coin* in French, *pain* in English and *pain* in French. In this research, the concept of 'false friends' is used as an umbrella term to cover both regardless of the semantic difference between them.

Table 4.15*Students' Attitudes towards the Suggested Implementation of En/Fr CS*

	N	Mean	SD
30. Teachers should reduce the use of En/Fr CS in the classroom to give more opportunities to students to learn authentic English.	162	3,7099	1,07300
31. En/Fr CS should be used only to teach medical terminology	162	3,3580	1,27380

Table 4.15 highlights two points on which participants expressed positive attitudes. From one hand, EMP teachers should minimize the use of English/French code-switching and emphasize a monolingual approach to provide students with more opportunities to use English orally and to develop its skills, mainly; speaking and listening. From the other hand, a total agreement was expressed on the point that teachers should confine the use of English/French code-switching only to explain and/or clarify complex medical terminology.

32. Open-ended Question

- a.** Do you think that English/French code-switching is an effective pedagogical strategy that helps medical (pharmacy) students improve their learning and contributes in enhancing their vocabulary comprehension?

Table 4.16*Students Perception about the use of En/Fr CS as a Pedagogical strategy*

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	83	51,2%	51,2%	51,2%
No	49	30,2%	30,2%	81,5% %
Undecided	30	18,5%	18,5%	100,0%
Total	162	100,0%	100,0%	

More than 51% of students believe that English/French code-switching may be an effective pedagogical strategy, as it may help medical students in general and pharmacy students in particular to improve their learning skills, mainly vocabulary comprehension. Around 30% however replied negatively as they regard CS as a negative strategy which may hinder the process of learning the target language, and may prevent students from developing language skills such as pronunciation listening and speaking. 30 students (around 19%), on the other hand, remain undecided on whether CS is a good strategy or a language barrier in the

classroom. the last category may reflect the perceptions of those who study in a monolingual style, in which no other language/s are allowed in the course.

b. Students' justification for the previous response

From the 83 students who responded on the previous question by yes, only 11 students justified their choice. However, from those (49 students) who regarded CS as a negative strategy and a language barrier, only 6 students justified their answer.

Table 4.17

Students Justification for Yes answer (English/French CS is an effective pedagogical strategy)

Yes		Justification
N	%	
11	13,2%	CS between English and French may provide a better explanation and facilitates the understanding especially for those who are weak in English.
11	13,2%	CS may be a bridge between the shared medical terminology between English and French which is derived from Greek and Latin.
11	13,2%	CS may help students develop a better understanding and a larger vocabulary in both languages.
9	10,8%	CS may be easier than monolingual style since students are habituated to study in French, they may get use of it to learn English.
5	6,02%	CS may be effective and time-saving to learn difficult vocabulary
3	3,6%	CS may motivate students who are shy to speak English or introvert to participate in the English Class.

From those who said yes, 11 students argued that English/French CS may act as a backup to those who show a low proficiency level in English. This may happen by providing a simple and better explanation to the difficult content. Therefore, CS, in this case, may work as a facilitator rather than a preventor. Likewise, 11 students claimed that CS may work as a bridge between what is known for students in French and what is to be known in English. Hence, it would improve the learning of medical terminology. Another equivalent number justified that CS may help students develop a better understanding as it may also enlarge their glossary in both languages. Additionally, around 11% believed that CS is better than the monolingual style, since French is an already known language and students may get use of it to learn a new target language (English). More or less 6% of students regarded CS as a time and an effort-saving

strategy to learn difficult vocabulary. The three remaining students believed that CS may boost motivation inside the classroom, since it may encourage students who are shy or introvert to take part and participate in the classroom. consequently, CS may be an effective communicative strategy as it may work as a drive to maintain the flow of interaction between the teacher and the students or among students.

Table 4.18

Students Justification for No answer (English/French CS is not an effective pedagogical strategy)

NO		Justification
N	%	
6	12,2%	Students should have a full exposure to the target language so as to have a better opportunity to learn and practise it, so CS may be an obstacle especially when we talk about the time allocated to learn English (2hours per week).
5	10,2%	CS may lead to negative transfer between languages and thus it may cause confusion in grammar and vocabulary, so students may use the wrong grammatical rule or wrong spelling or even wrong pronunciation.
4	8,1%	CS may make students lazy to learn, search and make effort to get information when they rely on translation or provided equivalents.
4	8,1%	CS may hinder the learning of English since it may prevent students from thinking in English and this would impact their oral and written skills.
3	6,1%	Students are not homogenous in terms of language level; CS may cause problems to those who are weak in French as well as in English.
2	4,08%	CS may affect the student's ability and opportunity to be fluent in English.

Table 4.18 reflects the students' different reasons for not regarding English/French code-switching as an effective pedagogical strategy. As mentioned earlier, from those who said no only six students justified their answer. First, the six students had a conviction that CS could be an obstacle, especially when it prevents students from having a full exposure to English, and thus, taking away their opportunity to better learn and practise the language. they further proceed that, the time schedule of EMP course is very limited. Since they have only one session of two hours per week which should at least be dedicated to learn English. For this reason, students should be in full contact with the latter for a better learning and practice. Otherwise, CS in this case, would detract them from this privilege.

Second, five students elaborated that CS may have a negative impact on the students' performance in different skills. Due to the negative transfer⁴ that could occur between languages, CS may lead students to use the wrong vocabulary or the wrong grammatical rule. It may also impact their spelling and/or pronunciation. Third, four students subsequently claimed that CS may lead students to become lazy and dependent on French equivalents, instead of searching and making effort to get information. Consequently, CS may prevent students from having a larger diversified vocabulary in English. Additionally, the same number of students stated that the excessive use and thinking in French may prevent students from thinking in English which would impact their oral as well as their written production. So, instead of learning how to think and talk in English, students would remain hostages of the French language.

Additionally, three students raised the issue of proficiency level in both languages. They claimed that students are not homogenous in terms of language level, as some are weak in English others are weak in French whereas another bunch are weak in both languages. CS here and according to them, would be a waste of time and effort, because instead of concentrating on learning English and gaining an adequate level in this language, students would be lost between two foreign languages and would have to make extra effort to compensate for their weaknesses in both languages. Therefore, prior to testing the level of students in English as well as in French, it may not be strategic to use CS in the EMP course. The last point was raised by two students who declared that CS may affect not only the ability but also the opportunity of students to be fluent in English.

4.3.1.2 Teachers' Questionnaire

I. Background Information

1.1 Gender

Six teachers took part in this study, three of them are male participants whereas the other three are female participants.

⁴ Switching between languages may lead to the interference or negative influence of one language, generally the language that you know (mother tongue or L1), on the other, the language that you are learning (L2 or FL). So, negative transfer occurs when the speaker deduces the wrong word, structure or even the wrong grammatical rule believing that it works in both ways, while it is not. Therefore, negative transfer may lead to confusion and/or misunderstandings.

1.2 Occupation

Two teachers, one male and one female, work as full-time EGP and ESP teachers in the university of Sétif whereas four young teachers, in which two are males and two are females, work as part-time teachers in the departments of medicine, pharmacy and dentistry. Among the four, one female teacher is a part-time teacher in the department of English language and literature as well.

1.3 Age

The age range of participants is classified into three categories, the first category; two teachers are less than thirty years old. The second category; two other teachers are between 30 and 40 years old, and the third one shows that the two remaining teachers are above fifty years old.

Table 4.19

Age Gender and Occupation of EMP Teachers

Gender	Occupation	Age			Total
		<30	30-40	> 50	
Masculine	Part-time teacher	1	1	0	2
	Full-time teacher	0	0	1	1
	Total	1	1	1	3
Feminine	Part-time teacher	1	1	0	2
	Full-time teacher	0	0	1	1
	Total	1	1	1	3

1.4 EGP Teaching Experience

two teachers, male and female, show higher experience in teaching English for general purposes, since a female teacher worked in high school for more than twenty years then joined the university, whereas the other male teacher had the same experience but in the university. Two young teachers have an experience between five and ten years in teaching EGP, whereas the last two teachers, also a male and a female, have an experience of less than five years.

1.5 EMP Teaching Experience

EMP, as a specialty, has newly integrated the faculty of medicine in Sétif university, this is why teachers are more or less novice in this domain. The least experienced among their colleagues are two, male and female, teachers who taught EMP for less than two years. two other teachers have an experience of less than five years in teaching English for medical purposes. Whereas another teacher has taught EMP for more than five years. Last but not least, one male teacher has an experience of more than ten years in this respect, since he worked in private schools and private institutes prior to working in the faculty of medicine.

1.6 Work Place as EMP Teacher

As mentioned earlier, four teachers work as part-time teachers in the different departments of the university of Sétif. The other two teachers, have worked not only in the university but also in private schools and private institutes of languages in Sétif.

Table 4.20

Teachers Teaching Experience and Place of Work

			N	Work-place	
				University	University+Private schools/Institutes
Teaching Experience	EGP	0-05	2	2	/
		5-10	2	2	/
		>20	2	/	2
	Total		6	4	2
EMP	0-05	0-05	4	3	1
		5-10	1	1	/
		>10	1	/	1
	Total		6	4	2

1.7 Teachers' Proficiency Level in French

Three teachers, two males and a female, estimated their level in French language to be intermediate, whereas another three teachers, a male and two females, stated that they have an advanced level in this language.

Table 4.21*Teachers' Level in French*

		Intermediate	Advanced	Total
Gender	Masculine	2	1	3
	Feminine	1	2	3
Total		3	3	6

1.8 Teachers' language fluency

As is apparent, the six teachers are fluent in Arabic; their mother tongue, and English; the language they are teaching. Four teachers, however stated that they are fluent in French whereas two teachers are not. Additionally, a male teacher is also fluent in German language.

Table 4.22*Teachers' Language Fluency*

		N	Percent	Percent of Cases
Language	Arabic	6	35,3%	100,0%
Fluency ^a	French	4	23,5%	66,7%
	English	6	35,3%	100,0%
	German	1	5,9%	16,7%
Total		17	100,0%	283,3%

a. Dichotomy group tabulated at value 1.

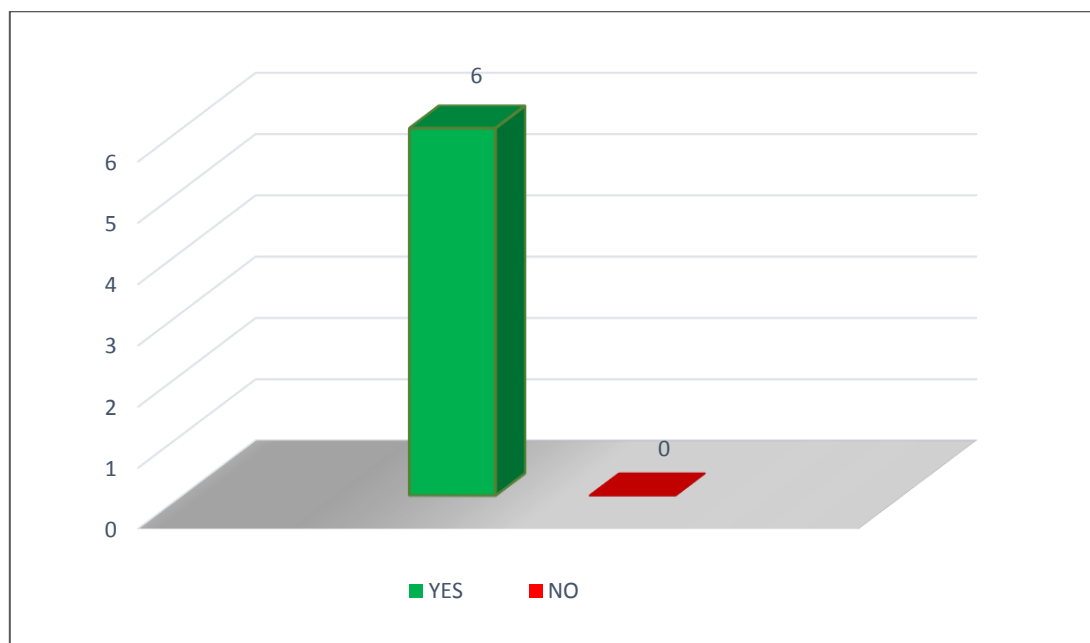
II. EMP Teaching and Teacher Training

2. As an EMP teacher, do you think that it is important to learn your students' profile?

When teachers were asked about the importance of knowing and learning their students' profile, all of them responded by yes; it is significantly important to be aware of the students' learning profile, their language preferences and learning styles. Accordingly, four teachers justified their choice, reporting that this step helps them Understand their students' strengths, weaknesses and preferences as it contributes in tailoring lessons to their needs which would make learning more efficient and meaningful.

Figure 4.7

Knowing the students' profile is important



3. Do you conduct any placement test(s) to check your students English and/or French level?

Table 4.23

Checking students' language level

		Frequency	Percent	Cumulative Percent
English	YES	2	33,3%	33,3%
	NO	4	66,7%	100,0%
French	YES	0	00%	00%
	NO	6	100,0%	100,0%
	Total	6	100,0%	

As far as the placement test is concerned and prior to teaching the EMP course, two teachers confirmed conducting an English placement test to check students' proficiency level and to determine the degree of homogeneity or heterogeneity of their groups. However, four teachers admitted that they did not check their students' level in English as they did not run such a test. Furthermore, the students' proficiency level in French remained obscure as the six teachers declared not being concerned with this point.

3.1 Students proficiency level in English and French (according to teachers)

Table 4.24

Estimated level of students in English and French

		Frequency	Percent	Cumulative
English level	Pre-intermediate	4	66,7	66,7
	Not sure	2	33,3	100,0
French level	Intermediate	2	33,3	33,3
	Not sure	4	66,7	100,0
Total		6	100,0	

Four teachers stated that students have a pre-intermediate level in English. The latter is based on the teachers' placement test results. But for those who did not have concrete data, two teachers assumed that their students are seemingly pre-intermediate whereas the two other teachers, being not sure, preferred not to answer. In the meanwhile, despite the fact that no teacher has tested his students' level in French, two teachers presumed that students have an intermediate level whereas, four teachers were not sure.

4. Students' language preference for the MI in EMP (according to teachers)

Table 4.25

Students Language Preference in EMP course

	Frequency	Percent	Cumulative Percent
Full English	1	16,7	16,7
English/French	3	50,0	66,7
En/Fr/Ar	1	16,7	83,3
Undecided	1	16,7	100,0
Total	6	100,0	

Teachers provided different answers, when they were asked in which language their students prefer to have their EMP course. Three teachers stated that their students prefer a medium of instruction based on switching between English and French. More than that, one teacher stated that his students prefer the use of not only French but also Arabic within the

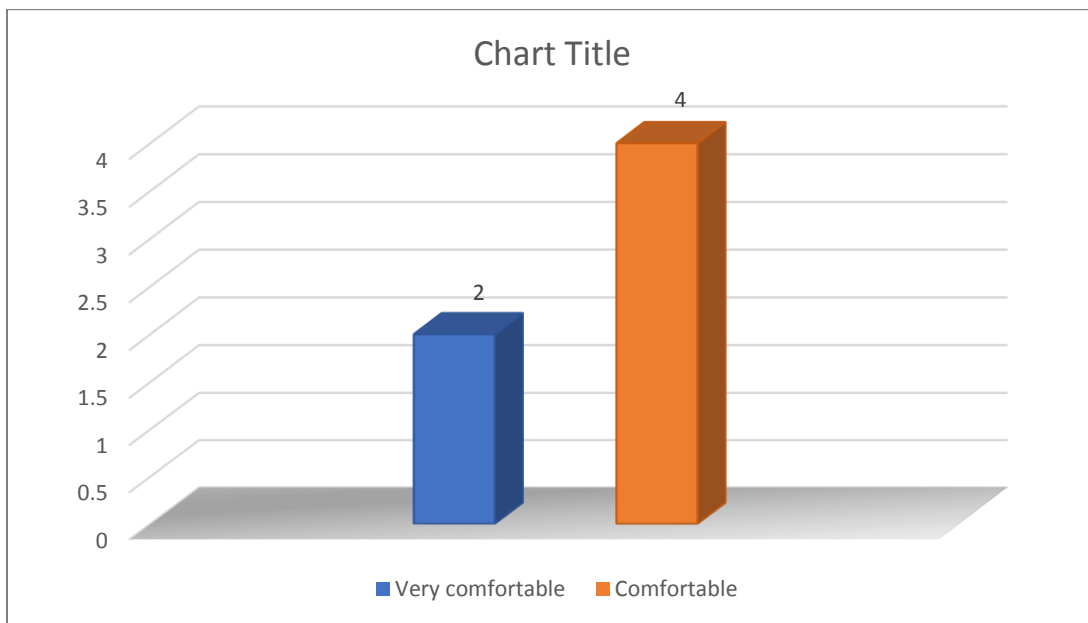
course. However, another teacher declared that his students prefer to study in a monolingual style, i.e., to have the EMP course in full English. Whereas, the last teacher was undecided about his students' language preference.

5. How comfortable you are in teaching EMP?

The six teachers seemed to be comfortable in teaching EMP, yet the degree of comfortability differs between them. The two teachers with the largest experience in teaching stated to have no difficulties or problems within the EMP course, therefore, they are very comfortable with the process. Furthermore, in spite of their humble teaching experience, four other teachers also proclaimed to be comfortable in teaching English for medical purposes.

Figure 4.8

Degree of teachers' comfortability in teaching EMP



6. Do you face any difficulties in teaching EMP?

Likewise, two teachers, who manifest a larger and a diverse experience in teaching EMP, stated that they face no difficulties when they teach English for medical purposes. However, the four remaining teachers admitted to have encounter different difficulties when teaching this course. More details about the kind and number of difficulties are going to be stated in the coming sub-question.

Table 4.26*Any teaching Difficulties in EMP course*

		Any difficulties in teaching EMP		
		YES	NO	Total
Gender	Masculine	2	1	3
	Feminine	2	1	3
Total		4	2	6

6.1 If yes, what are the difficulties in teaching EMP?

Four teachers, previously stated to have many difficulties in the EMP course, unveiled the most disturbing obstacles that they have to deal with in the classroom. First, they agreed that the lack of teaching experience and the absence of training and orientation in teaching EMP is one of the significantly challenging problems that impact the teaching process. Second, a total agreement, that the professional-related (medical) content is challenging and not easy to deal with, was also expressed by the four teachers. Third, another difficulty that revealed a unanimous agreement is the fact that students' basic skills are weak which makes the teaching of EMP very challenging. Additionally, the four teachers further stated that teaching vocabulary and medical terminology is a very challenging and difficult task, due to the fact that the majority of students demonstrate a kind of difficulty in understanding medical words and expressions presented in English. Moreover, three teachers stated that, the lack of teaching materials relevant to the EMP course is another crucial point that makes the process of teaching even more difficult and challenging. Two teachers, in the same vein, proclaimed that adapting English as a monolingual style creates a sort of difficulty in teaching and learning English for medical purposes, due to the fact that students are weak in English. Therefore, they would not be able to understand the teacher's speech or the teacher's presented topics in full English (see table 4.27 in next page).

Table 4.27

Kind of difficulties in teaching EMP

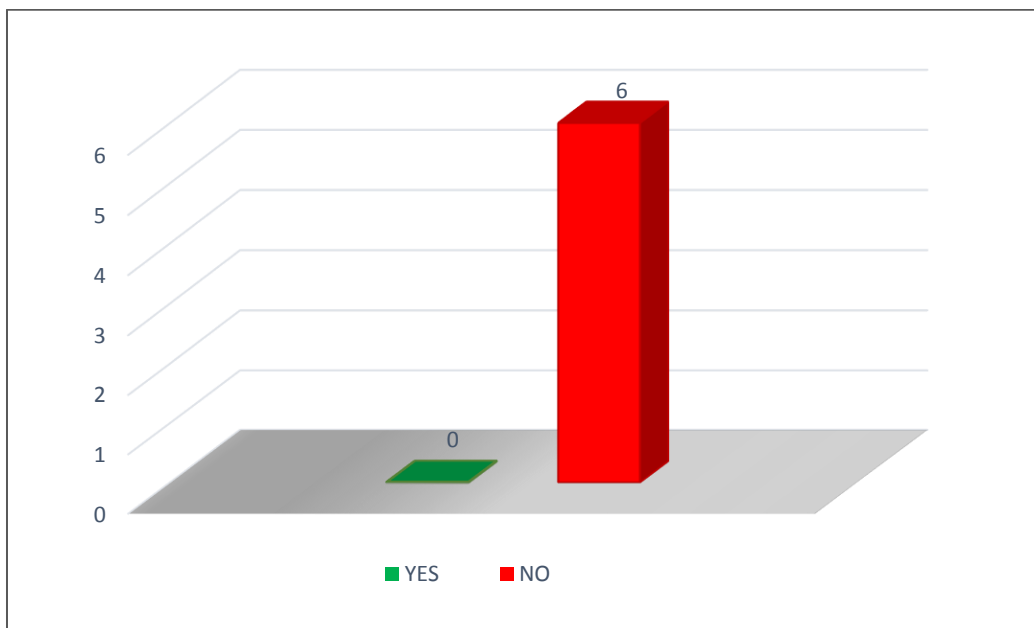
	N	Percent	% of Cases
Lack of teaching materials relevant to EMP	3	13,6%	75,0%
Lack of experience and absence of training	4	18,2%	100,0%
Teaching medical topics is difficult	4	18,2%	100,0%
Lack of knowledge about the field of specialisation	1	4,5%	25,0%
Students basic skills are weak e.g. listening, note-taking	4	18,2%	100,0%
Students cannot understand topics presented only in English	2	9,1%	50,0%
Students cannot understand medical terminology presented only in English	4	18,2%	100,0%
Total	22	100,0%	550,0%

a. Dichotomy group tabulated at value 1.

7. Have you had any training in teaching EMP?

Figure 4.9

Any training in EMP Teaching



The six teachers, including the two experienced ones, revealed that they had never conducted a training in teaching EMP. Instead, teachers depend on their own teaching skills, resources and materials. Data from interview revealed that, three teachers reported they have gained experience in teaching English for medical purposes through experience and personal trainings (they worked on and developed their own competence in teaching this course).

8. Do you feel the need for EMP teacher training?

8.1 If yes, in which language would you prefer to have the training?

Five teachers acknowledged that there is a crucial need for EMP teacher training, whereas only one teacher proclaimed that there is no need for such a training. Simultaneously, the same number of teachers diverged, when asked to select their preferred language for the training. two teachers stated that they prefer to have English as the language of training and instruction, whereas three other teachers had a tendency for the English/French duality. In the meanwhile, the teacher who felt no need for a training in the EMP domain, was undecided about his language preference.

Table 4.28

Need for Teacher Training in EMP and Language Preference of Training

		Language of Training			Total
		English	En/Fr	Undecided	
Need for training in EMP	YES	2	3	0	5
	NO	0	0	1	1
Total		2	3	1	6

III. EMP Teaching Materials

9. What are the teaching materials that are available and which ones do you use in teaching EMP?

Table 4.29*Teaching materials available and used in the EMP course*

Kind of materials	Yes	No	Not available
Curriculum for EMP teaching provided by University	3	3	/
Syllabus provided by the department of Medicine, Pharmacy and/or Dentistry	/	/	6
Personal syllabus	6	0	/
EFL/ ESP Textbook(s)	4	2	/
Websites and internet resources	6	0	/
Other: borrowed materials like teachers' previously prepared lectures, notes, themes, videos...etc	4	2	/

Teachers were asked about the kind of materials they depend on in teaching their EMP course. First, the six teachers agree that there is no syllabus available or provided by the department of medicine, dentistry or pharmacy. The only document provided is a sort of curriculum, in which there are a set of points about the target objectives and the content that should be focused on in the EMP course. Second, three teachers asked about the curriculum and were provided a copy whereas three others did not ask about it. Third, the six teachers depend on a personal syllabus adapted from different sources and adopted to meet the needs of their students. Additionally, the six teachers rely on internet resources and websites in preparing their courses. Moreover, four teachers rely on different international textbooks. Likewise, four teachers use their fellows' materials like prepared lectures, notes, audio-visual materials, etc.

10. In which language(s) teaching materials are available?

The six teachers, when asked about the language of the teaching materials, five of them stated that the original version of their materials is found in English. Another teacher, however, claimed to find materials in mixed languages and most of the time in English and French.

11. In which language(s), materials are presented to students?

Two teachers, when asked about the language in which they present their teaching materials, stated that they make no changes on the original source, as they present the content as it is in full English. Four teachers, however, stated that they depend on translation as they present parts of the content in both English and French languages.

Table 4.30*Language of available materials and language of presented materials*

		Frequency	Percent
Available in	English	5	83,3%
	En/Fr	1	16,7%
Presented in	Original version (En)	2	33,3%
	Translated (En/Fr)	4	66,7%
Total		6	100,0%

11.1 To what extent do you translate the materials into French?

As mentioned earlier, two teachers claimed that they provide the content of their materials in English, whereas three teachers acknowledged that they depend on translation as they translate small parts of the content into French, before presenting it to students. Furthermore, the last teacher stated that his dependence on translation is very limited within the course, since he translates only few words of the content when necessary. More details about the teachers' practices and attitudes will be explored in the next point, yet the teachers' justifications for their choices and preferences in the EMP course are further elaborated in a thorough discussion. the latter will be presented in the qualitative part of this study.

Table 4.31*The Extent of Translation into French*

	Frequency	Percent
Translating the whole material	0	00,0%
Translating small parts of the material	3	50,0%
Translating few words of the material	1	16,7%
No translation	2	33,3%
Total	6	100,0%

12. For what reasons do you translate your EMP teaching materials into French?

Table 4.32

Reasons for translating EMP teaching materials into French

Reasons ^a	Responses		
	N	%	% of Cases
Providing written equivalents in French is a time- and an effort-saving strategy.	4	40,0%	100,0%
providing written explanation of certain words and information about certain expressions in French would reduce ambiguity and misunderstanding.	2	20,0%	50,0%
Translating certain parts of the content materials into French could make students at ease as it could prevent students' from asking unnecessary questions.	3	30,0%	75,0%
Translating words or small parts of the content materials into French could attract the students' attention and could enhance their motivation about the EMP course	1	10,0%	25,0%
Total	10	100,0%	250,0%

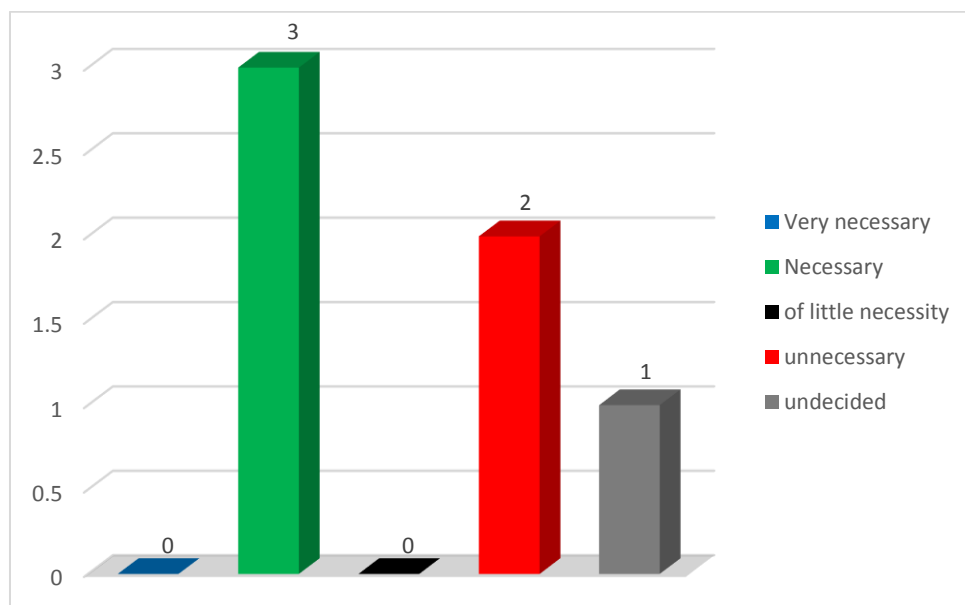
a. Dichotomy group tabulated at value 1.

There are different reasons that encourage teachers to depend on translation of some parts of the content into French. First, four teachers claimed that, through translation teachers could save time and effort in dealing with diverse pedagogical instructions. Second, three teachers further elaborated that translating different parts of the content into French could make students at ease as it could prevent students from asking unnecessary questions. Third, two teachers proclaimed that providing a written form of translated words and expressions into French would probably reduce ambiguity about the content presented to students. This step would also shrink the zone of misunderstanding between the teacher and the students, mainly when dealing with medical topics and medical terminology. In addition, one of the teachers argued that translating different parts of the content into French may attract the students' attention and enhance their motivation to be indulged in the learning process.

13. Please, select the degree of necessity to translate EMP teaching materials into French.

Figure 4.10

Necessity of translating EMP teaching materials into French



Three teachers regarded translating parts of the content into French as necessary in the teaching-learning process of the EMP course, however two teachers stated that it is unnecessary to provide a translated version of the content to students. The sixth teacher could not decide on whether translating content into French is necessary or not, this is why he chose the neutral response.

IV. Skills Development in EMP Course

14. Specify the skill(s) developed in your EMP course, and mention which language of instruction you use to achieve your course objectives.

From table 4.33 below, we can notice that the six EMP teachers focus similarly on the same kind and number of skills in their course. Yet, four teachers give a slight additional focus to developing the oral presentation skills whereas only two teachers are interested in interpretation and translation skills. However, the language of instruction differs from one teacher to another and from one skill to another. First of all, four teachers depend on a monolingual style in teaching grammar, academic and professional-related writing as well as pronunciation and phonetics, whereas two teachers depend on English/French code-switching to teach these skills. Relatively speaking, three teachers depend strictly on English whereas the other three depend on English/French code-switching in the teaching of general and medical

vocabulary, reading, speaking and interactions skills. Likewise, three teachers use English to teach oral presentation skills, but only one teacher prefers English/French code-switching to deal with the latter. Moreover, three teachers adopt English/ French code-switching as the language of instruction in teaching vocabulary comprehension, listening comprehension and medical terminology. The fourth teacher, further combines between English, French and Arabic in teaching the three mentioned skills. In this regard, the two remaining teachers stick to the monolingual style of teaching. Last but not least, the two teachers, who are further interested in teaching translation and interpretation skills, depend on English/ French code-switching as a medium of instruction here.

Table 4.33

Skills Developed and Language of Instruction in EMP Course

Skills ^a	N	Language of Instruction			Total
		En	En/Fr	En/Fr/Ar	
Developing Grammar skills	6	4	2	/	6
Improving vocabulary comprehension	6	2	3	1	6
Improving listening comprehension	6	2	3	1	6
Increasing English vocabulary (including professional related vocabulary)	6	3	3	/	6
Increasing medical terminology	6	2	3	1	6
Developing reading for medical purposes	6	3	3	/	6
Developing writing skills (academic and professional related)	6	4	2	/	6
Developing speaking skills and improving fluency	6	3	3	/	6
Improving pronunciation and developing phonetics	6	4	2	/	6
Developing interaction skills	6	3	3	/	6
Developing oral presentation skills	4	3	1	/	4
Developing interpretation and translation skills	2	/	2	/	2

a. Dichotomy group tabulated at value 1.

15. Please select to which extent English/French Code-switching is useful to achieve the objectives of your course.

Table 4.34

Usefulness of En/FR CS in Teacher's Speech and Instruction

	Frequency	Percent	Cumulative Percent
Very useful	2	33,3%	33,3%
Useful	2	33,3%	66,7%
Not very useful	1	16,7%	83,3%
Useless	1	16,7%	100,0%
Total	6	100,0%	

When teachers were asked about the extent to which English/French code-switching may be useful in achieving their course objectives, four of them argued that it has a positive effect whereas two teachers proclaimed that code-switching has a negative influence on the course. Concrete data showed that four teachers regarded En/Fr CS as very useful or useful in achieving the course objectives. However, one teacher considered En/Fr CS as not very useful, whereas the last teacher further stated that this strategy is completely useless in the EMP course.

V. Language of Teaching and Language of Interaction

16. In EMP course, do you switch between English and another language when you teach, give instructions and interact with your students? If yes, which languages do you use?

Table 4.35

Teachers' CS and Languages of Switching

		Switching between English and another language		
		YES	NO	Total
Language(s) used	En/ Fr	3	0	3
	En/ Fr/ Ar	2	0	2
	No CS	0	1	1
Total		5	1	6

As far as code-switching is concerned, five teachers admit to use this strategy to fulfil different pedagogical purposes, whereas only one teacher found that code-switching is completely dispensable in the teaching-learning process. Now, for those who use CS, three teachers prefer to depend on the alternation between English and French. In the meanwhile, two teachers further combine English, French and their mother tongue (Arabic) in the EMP course.

17. For what reasons teachers tend to use English/French code-switching in the EMP course?

Table 4.36

Reasons for Teachers' En/Fr CS

	N	%	% Cases
Teachers' En/Fr CS can make students at ease since they are habituated to use French, the MI in medical studies.	5	20,8%	83,3%
The use of En/Fr CS may avoid ambiguity of any difficult words, concepts or information provided in English	5	20,8%	83,3%
EMP course initiation can be easier, motivating and more effective when teachers use En/Fr CS	4	16,7%	66,7%
En/Fr CS can be used as an effective strategy to save time and effort in the process of teaching	4	16,7%	66,7%
En/Fr CS can be used as a stopgap for English vocabulary limitations for both teachers and students	4	16,7%	66,7%
En/Fr CS can be effective to check students' comprehension	4	16,7%	66,7%
En/Fr CS help teachers to attract their students' attention	3	12,5%	50,0%
En/Fr CS provides a better explanation and clarification of the content especially professional-related one	3	12,5%	50,0%
Teachers use En/Fr CS to show their good mastery of French which makes them more credible to their students	1	4,2%	16,7%
Total	24	100,0%	400,0%

a. Dichotomy group tabulated at value 1.

Teachers were asked about the different reasons for using English/French code-switching in the teaching of EMP course and the answers were as follows. From one hand, the most common reason, pointed out by the five teachers, is that French, since it is the medium of instruction in medical education and since students are habituated to use this language in different educational occasions, if adopted in the EMP course, it could make students at ease

and could facilitate the process of learning. The second most important reason that was similarly highlighted by the same teachers is that, En/Fr CS may reduce the extent of ambiguity and the level of difficulty encountered by students when dealing with different words, concepts and/or information in English.

On the other hand, four teachers claimed that EMP course initiation can be easier, motivating and even more effective, when teachers use En/Fr CS instead of depending on a monolingual style. Similarly, four teachers stated that En/Fr CS can be an effective time-management strategy since it can save time and effort in teaching EMP. Moreover, four teachers proclaimed its use as a stopgap to solve the problem of vocabulary limitations and lexical gaps. In this vein, teachers as well as students may depend on CS, when they miss a word or an expression in English or vice versa. In addition, four teachers argued that En/Fr CS can be effective in checking the students' comprehension. Simultaneously, three teachers may provide a better explanation of the content whether general or professional-related, as it can attract students' attention to the course. As a last point, one teacher argued that teachers depend on CS to show their capacity to use French so as to have more credibility among students.

18. How often you think the following practices happen in your course?

Table 4.37

Frequency of En/Fr CS in EMP course

Item description	(A)	(O)	(S)	(S)	(N)	Total
You use En/Fr CS to teach EMP course	2	1	2	/	1	6
You feel the need to switch from English to French to achieve your course objectives and to meet your students' needs	1	2	/	2	1	6
You give permission to your students to use En/Fr CS in the classroom	/	1	2	2	1	6
You initiate the use of En/ Fr CS in your classroom	1	2	3	/	1	6
En/Fr CS is initiated by your students in the classroom	/	1	3	2	/	6

Note. Always (A), Often (O), Sometimes (S), Seldom (S), Never (N)

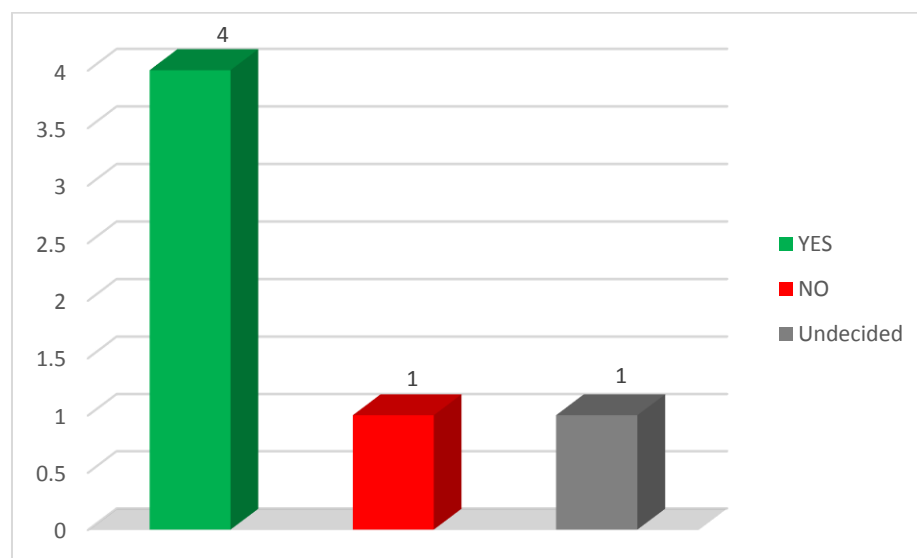
Teachers were asked to determine the frequency of En/Fr CS in different pedagogical activities. First, the frequency of using En/Fr CS in the EMP course differs from one teacher to another. Two teachers always use this strategy to teach English for medical purposes, one teacher often uses it whereas two others stated that they sometimes depend on CS in their

teaching. Three teachers claimed that the need to switch from English to French is highly frequent, since one teacher always feels this need and two others stated that they often need to switch from English to French to meet their course objectives and to fulfil the students' needs. However, two teachers expressed a less frequent need, arguing that they seldom feel obliged to switch from English to French. Furthermore, the frequency of letting students using CS differs from one teacher to another, since one teacher often grants permission, two teachers sometimes whereas two teachers seldom do so. Additionally, teachers' initiation of CS in the EMP course is highly frequent compared to students' initiation of CS. What can be noticed here is that, even though one teacher prefers a monolingual style and never relies on En/Fr CS in the teaching and learning process, his students still depend and use CS in the course.

19. As a teacher, do you recommend the use of En/Fr CS in the EMP course?

Figure 4.11

En/Fr CS recommended or not in EMP course



Teachers, when asked if they recommend the use of En/Fr code-switching in teaching the EMP course, four of them provided a positive answer whereas the fifth teacher responded negatively. The sixth teacher, however, preferred to remain neutral since he could not decide whether En/Fr CS is useful and should be employed in the process of teaching and learning English for medical purposes.

IV. Teachers' Attitudes towards the Use of English/ French CS in EMP Course

To investigate the attitudes of the six teachers towards the use of En/Fr CS in the EMP course and, to reveal their opinions about its possible impact on the teaching and learning

process, the researcher developed three Likert scales from which she deduced different data. The latter is interpreted and presented in two tables. Henceforth, the first table (table 4.38) represents the teachers attitudes towards the positive impact that En/Fr CS may have on the teaching-learning process, as well as its role to facilitate the understanding of the content and to improve the students' skills like vocabulary comprehension. This table is also concerned with the teachers' views about limiting the use of CS and making it target specific. The second table (table 4.39), however, revolves around the teachers' attitudes towards the negative impact that En/Fr CS may hold on students' learning habits and students' learning skills.

Prior to the impact of En/Fr CS on the teaching-learning process, teachers were questioned about the status of French language and its' role in EMP course. As a starting point, two teachers agreed that the use of French is important in the mentioned course, as it reflects a professional image of the teacher who has a high proficiency level in this language. Henceforth, the use of French makes the teacher more credible to his/her students. Three teachers disagreed and the fourth one was not sure about this point. Therefore, the overall attitude here tends to be neutral with a mean equivalent to 2,83. Then, four teachers; one strongly disagreed and three disagreed that teachers use French because of its prestigious status in the faculty of medicine among the staff, colleagues, teachers and subject-specialists. Despite the fact that two teachers expressed their agreement that French is mainly used by teachers to have a sense of professional belonging⁵, the overall attitude here tends to be negative with a mean equivalent to 2,5. After that, a positive attitude was expressed by four teachers concerning the role of French in the EMP course. Yet, two teachers disagreed that French is highly required as it plays an important pedagogical and non-pedagogical role in the teaching of EMP. More details about the role of the MI of medical studies and its importance in the EMP classroom will be discussed in teachers' semi-structured interview; the qualitative part of this research (see table 4.38 in next page).

⁵ A sense of professional belonging refers to the teacher's need to be accepted, appreciated and respected by his fellows in the institution of work. This need, as stated in Maslow's hierarchy of needs is highly important for teachers since it creates a balanced psychological and mental health state, which if not fulfilled, may affect their teaching performance. (Maslow, 1943)

Table 4.38*Teachers' Attitudes towards the use of En/Fr CS in EMP Course*

	N	Mean	SD
20. Teachers who master French and use it in teaching the EMP course, are more credible to their students than teachers who do not master French. (through French, teachers may show their knowledge in medical fields, they can discuss medical content with their students...etc).	6	2,8333	,98319
21. Teachers tend to use French in their course due to its prestige in medical education (a dominant language used by the majority of the staff in classroom, in meetings, in events...).	6	2,5000	1,22474
22. In the EMP course, French plays an important pedagogical and non-pedagogical role therefore, its use is highly required.	6	3,5000	1,22474
23. Teachers' En/Fr CS provides a better explanation of (general and professional-related) content, therefore it facilitates the process of understanding and attracts students' attention to the EMP course.	6	3,3333	1,03280
24. Teachers En/Fr CS enhances the vocabulary comprehension of students.	6	3,8333	,40825
25. Teachers En/Fr CS helps students to increase the (general and/or professional-related) vocabulary amount.	6	4,0000	,63246
26. Teachers En/Fr CS helps students to easily learn and retain medical terminology.	6	3,5000	,83666
27. Teachers En/Fr CS is time-saving and more effective in performing different pedagogical tasks like explaining, giving instructions, giving examples, emphasising...etc	6	4,1667	,75277
28. Teachers should limit the use of CS in the EMP course to provide more opportunities to students to learn authentic English and to develop their skills in the target language.	6	4,3333	,51640
29. Teachers should use En/Fr CS only to teach medical terminology.	6	2,8333	1,32916

Note. 5 Strongly Agree (SA), 4 Agree (A), 3 Neutral (N), 2 Disagree (D), 1 Strongly Disagree (SD)

The overall mean of the five items concerning the positive impact of teachers' En/Fr CS on the teaching-learning process is equivalent to 4,12 which means that there is a unanimous agreement that En/Fr CS can be an effective pedagogical strategy. Teachers' positive attitude towards the latter is justified through a number of pedagogical tasks that En/Fr CS may serve

in the EMP course. For instance, five teachers expressed their agreement (among them one strongly agreed) about the positive role of En/Fr CS to enhance vocabulary comprehension of students, to increase the vocabulary size; whether general or professional-related, and to improve the learning and retaining of medical terminology. Likewise, five teachers (among which two strongly agreed) agreed that En/Fr CS can be an effective time-management strategy as it saves the teacher's time and effort in doing certain tasks in the classroom like explaining, illustrating, giving instructions, emphasising...etc. Moreover, four teachers agreed that En/Fr CS may boost the process of learning in terms of facilitating the understanding of the professional-related content, therefore it may work as a motivating strategy for students to be attracted and more interested to the EMP course.

As far as the recommendation of teachers is concerned, there was a total agreement (four teachers agreed and two strongly agreed) that teachers should limit the use of En/Fr CS in the EMP course. this restriction is for the sake of giving students more opportunities to learn authentic English. Also, to provide an adequate climate in which they could discover their abilities without being confused, demotivated or even overwhelmed by code-switching in the classroom. However, a sort of disagreement was expressed when teachers were asked to show their attitude towards limiting the use of En/Fr CS to perform one task; the teaching of medical terminology. Henceforth, four teachers disagreed whereas, two agreed (one agreement and one strong agreement) that the only purpose for which En/Fr CS is employed should be the teaching of medical terminology.

The next set of attitudes report how teachers perceive the possible negative impact of code-switching on many teaching and learning aspects. Therefore, table 4.39 below revealed a neutral attitude with a mean equivalent to 2,66 was expressed vis-à-vis the negative impact of teachers' En/Fr CS on vocabulary learning and vocabulary comprehension. More precisely, two teachers agreed whereas two teachers disagreed that CS may lead to the wrong vocabulary choice, for instance, the problem of false friends between English and French. In the meanwhile, one teacher strongly agreed that this probability may happen unlike the last teacher who was not sure about this point. The same neutrality was shown in teachers' attitudes towards the other points concerning the negative impact of En/Fr CS with an average mean between 2,66 and 3,33. In other words, the attitudes of teachers appeared to be scattered between the different items, for example, three teachers agreed whereas the other three disagreed that En/Fr CS may affect the students' ability to be fluent in English, in a way to become dependent and therefore unable to hold a conversation and/or a speech in full English. Furthermore, four teachers agreed

whereas two disagreed that En/Fr CS may lead to confusion as it may hinder the potential of students to learn English in a native-like situation. Yet, the opposite attitude was revealed, i.e., two teachers agreed whereas four disagreed, towards the statement that En/Fr CS may overwhelm students by vocabulary parallels mainly medical ones. The last point unveiled further neutrality since three teachers disagreed whereas one strongly agreed, one agreed and another one was not sure if En/Fr CS could demotivate students from learning English as it may deprive them from listening to and practising English in real and native-like situations without any interference of French or the mother tongue.

Table 4.39

Teachers' Attitudes towards the Negative Impact of En/Fr CS

	N	Mean	SD
30. Teachers En/Fr CS may lead students to use the wrong vocabulary (e.g. false friends between English and French)	6	2,6667	1,21106
31. Teachers En/Fr CS makes students confused and hinders their potential of learning authentic English	6	2,6667	1,03280
32. Teachers En/Fr CS makes students more confused and overwhelmed by the vocabulary parallels especially medical terminology	6	3,3333	1,03280
33. Teachers En/Fr CS may lead students to become dependent on this habit therefore, it may weaken their ability to be fluent in English	6	3,0000	1,09545
34. Teachers En/Fr CS makes students lose the opportunity to listen to and to practise more English and thus losing motivation to learn it	6	3,0000	1,26491

Note. 5 Strongly Disagree (SD), 4 Disagree (D), 3 Neutral (N), 2 Agree (A), 1 Strongly Agree (SA).

4.3.2 Part Two: Qualitative Data Analysis

4.3.2.1 Teachers' Semi-Structured Interview

It is worth mentioning, before accounting for the data collected from the teachers' interview, (see appendix E) that the latter include three participants, two males and a female teacher. Expressing diverse profiles, teacher one is among the most experienced teachers in the teaching of English for Medical Purposes (EMP) and the only one among the interviewees

declared to be a Francophone who speaks and uses French in his daily life. Teacher two, a young Arabophone showing a significant experience in teaching EMP whereas the third female teacher is a young teacher who has newly integrated the department of dentistry as an EMP teacher.

The teachers' semi-structured interview was designed as a complementary element to the teachers' questionnaire to collect an in-depth qualitative data about the subject of investigation. Thus, it attempts to connect and to tap both the teachers' perceptions as well as their feelings about the investigated topic. Accordingly, this instrument consists of eight questions in addition to the introductory and the concluding questions. Besides, it is also worth mentioning that the researcher, when dealing with some of the answers felt the need to probe to an extended sub-question to have better insights and clarifications and to gather more arguments. Indeed, this option reflects the nature of this research instrument, making the researcher in disposal of enough space and possibility to act upon the interviewees' provided information.

4.3.2.1.1 Results of Teachers' Semi-Structured Interview

Introductory question: teachers' profile and teaching experience

This interview started by an introductory question that touches upon the teacher's profile, qualifications and teaching experience in both GE and ESP and place of work. Consequently, this instrument came up with the following profiles.

The first teacher a senior lecturer in linguistics and research methodology in the department of English language and literature at Sétif 2 university. He has been teaching English since 1994 in different domains, namely; National Education, Military English at the '*Gendarmerie Nationale*', university departments and open university. He has been teaching ESP and EMP for more than ten years in different departments like the department of medicine, the department of biology and the department of economy in Sétif. He has also worked in different private schools and institutes in Sétif, Constantine and Annaba. Furthermore, he has taught academic and professional English to both students and teachers, as well as he has trained many subject specialists and assistant lecturers in different services in the CHU hospital of Sétif, epidemiology service, reanimation and anaesthesiology service, etc. therefore, the first teacher reflects a significant large experience in the researcher's domain of investigation.

The second teacher is a teacher of English with an MA degree in language and sciences. He has been teaching English for more than ten years in a middle school in Sétif. He is also a part-time teacher in the departments of pharmacy and dentistry as he has been teaching EMP for more than five years.

The third teacher is a doctorate student in the field of linguistics at Sétif university. she has newly integrated the department of medicine as a part-time teacher for the year 2018/2019. She has an experience of less than five years in teaching general English and technical English in different departments, mainly, the department of English, the department of economy as well as the department of technology and electronics.

Question one: teaching objectives of an EMP course (taking pharmacy students as an example).

The three teachers stated that prior to determining the objectives of a medical course a placement test is primordial to determine the level of students, their needs and their weaknesses, and to reveal whether the class is homogenous or heterogenous. With regards to the objectives behind the teaching of a medical course, the three teachers made mention of a number of objectives that would depend on the level of students. The three teachers were on the same point that students; should reach a significant acquaintance with professional-related English, should read technical texts related to their domain of specialisation and should be introduced to technical vocabulary so as to get familiarised with medical terminology. Furthermore, speaking and listening are equally important, since the second most important objective, for the three teachers, is to improve and boost the students' ability to speak and to engage in conversations. Therefore, one of their objectives is to improve the listening comprehension of students through listening and reacting on audio-visual content. However, the three teachers claimed that the writing skills are somehow neglected by both; teachers and students of EMP course. In exchange, more importance is granted to speaking, listening and reading. The third teacher argued that this preference is due to the students' tendency to be an anglophone or as he said 'to quickly jump into an English-speaking community and be able to use the language orally at the expense of the writing side'. As for teachers, neglecting writing skills is related mostly to time restrictions. The first teacher concluded that helping students to become proficient readers and speakers, equipping them with the necessary grammatical, lexical and phonetic background and skills would pave the way for them to be proficient and raise their motivation to be better in English.

Question two: students' difficulties in the EMP course.

The second question intends to pinpoint the main difficulties students encounter in an EMP course. The three teachers, unanimously, asserted that there are two main problems in the EMP classroom; students' lack of comprehension especially vocabulary and listening and students' lack of motivation to learn English. As far as the first point is concerned, in addition to the students' limited level in English and their weak vocabulary background, the language of the teacher, the speed of his/her speech and his/her accent and pronunciation all of which contribute in the students lack of understanding. According to the first and second teachers, these problems urge the teacher as well as the students to appeal for another language to interfere and facilitate the comprehension. The second teacher further elaborates that the medium of instruction (MI) in the field of specialisation is one of the factors that demotivate students to learn English or as he said 'steals the light from the English language'. He claims that when students learn the other modules in French, a foreign language in which they already struggle, they make tremendous efforts in the mentioned tasks leaving no space or efforts for them to be motivated to learn English. Therefore, they forward their attention towards translation or code-switching from English to French and vice-versa to solve the problems of comprehension which could make the task of learning English easier. He further presumed that if the medium of instruction in pharmacy is English instead of French, students could have been more interested to the learning of English language.

Question three: the use of English/French Code-switching as a pedagogical strategy to overcome students' difficulties and to achieve the course objectives.

The two male teachers responded by yes, En/Fr CS can be used as a pedagogical strategy to overcome the students' learning difficulties especially comprehension issues. The first teacher not only asserts the efficiency of this strategy but also wonders why people in Algeria claim the opposite, for instance, he stated that responsible people like inspectors and authority makers in middle or secondary schools, urge teachers and students to avoid the mother tongue forcing them to adopt a monolingual style, which, for these people, is a better way of acquisition. He further explains that this idea is false taking Europe and some of the western countries, who depend on the mother tongue or the L1 to learn, as an illustration of their effective pedagogical process. Moreover, he claims that this strategy is a must in the domain of ESP and more particularly EMP as it should be used especially with students of low proficiency level. Teachers and students alike need to switch from time to time to overcome some learning

and teaching obstacles as well as to gain time and effort in explaining and comprehending. He concludes wondering why people in the same field regard this strategy as a drawback!

As far as the contribution of En/Fr CS in the achievement of the course objectives is concerned, both male teachers responded positively to this question, claiming that not only it may contribute in achieving the course objectives but it may also facilitate the process of teaching and learning, it may motivate students to be active in the classroom, as it could be a time and an effort preserving strategy. Additionally, both teachers assert their usefulness in the teaching of medical terminology and in enhancing the vocabulary comprehension of students.

The female teacher, however, expressed a neutral response, claiming that this strategy could be more destructive than constructive and that being novice in this field makes her incapable of making any judgment or evaluation in this vein. Yet, she believes that depending on this strategy could affect the teaching and learning process in a negative way. For instance, reducing the allocated time to learn English, which already is not enough, could deprive students from the only authentic environment where English could be practiced.

Question four: pedagogical and non-pedagogical purposes behind the teacher's use of En/Fr Code-switching.

The first teacher, when asked about the reasons behind his use of CS, stated that he is a strong advocate of this strategy, as he said:

Je suis un switcher de niveau international, je maîtrise les deux langues parfaitement, je pense en Anglais, I speak French sans aucun problème ... I'm basically inclined to French. I'm a francophone you know the historical and cultural background of this language in Algeria, I studied in French and used it my whole life since a young age, this is why I find no problem and I use it similarly as English in different situations. (Teacher One, Zoom interview. October 05, 2020)

For the purposes behind En/Fr Code-switching, he stated that it is heavily used to support the pedagogical process, for instance he prefers to switch to French to explain an idea, to provide a synonym or an antonym, to emphasise an information or an instruction, to check the students' comprehension as well as to avoid wasting time and effort explaining ambiguous concepts or expressions or dealing with difficult tasks or activities. Overall, he claimed that he uses En/Fr Code-switching to facilitate the teaching learning process of EMP. Now, for non-

pedagogical reasons, teacher one asserts that En/Fr code-switching could serve other purposes which may not be pedagogical but may help the teaching-learning process. For instance, the teacher may open a bracket to recite a joke, or use a sense of humour, in this case the tool of communication is very important, he explains “imagine you tell a joke in English in which students have no cultural background or even a high level of understanding! Students would be sceptical and the joyful moment of laughing on that joke would be lost” (extracted from the teacher’s response in a zoom meeting). In this case we can relate to the power of Code-switching. Furthermore, the teacher thinks that, through En/Fr code-switching, we can create a better friendly atmosphere with students rather than when we use only English. In this case, students are ashamed to engage in conversations or exchange when they are uncomfortable to use the target language. he concluded that En/Fr code-switching is a powerful tool that could be used for pedagogical and non-pedagogical aims.

The second teacher argued that there are two main reasons that somehow urge the EMP teacher to depend on En/Fr Code-switching to teach the EMP course. First, students unveil conspicuous weaknesses in English, most of them are unable to speak or interact in English, they have issues to understand the teacher’s language when he talks only in English as they have comprehension issues when they listen to audio or audio-visual content in a native or a native-like language. additionally, students have further problems related to reading, writing and grammar. Second, since pharmacy students are accustomed to study in French, they already know the medical terminology in this language. therefore, En/Fr Code-switching could link the students’ knowledge in French to what they intend to learn in English. It could also boost their translation and interpretation skills and improve their memory when they practise both languages. Henceforth, this strategy is purely pedagogical as it attempts to solve the students’ learning issues related to the EMP course. he concluded that, the use of En/Fr Code-switching is very limited when it comes to the non-pedagogical side and most of the time is initiated by the students and not the teacher.

The third female teacher, made it clear that she stands against the use of code-switching in the EMP course, regardless of the languages employed. When asked about the possible reasons behind the teacher’s En/Fr Code-switching, she stated that she cannot deny that this strategy is used to serve many pedagogical and even non-pedagogical aims. Yet, she believes that, what can be done through Code-switching could be easily and more effectively done in a monolingual style. She further claims that En/Fr Code-switching makes the teaching and

learning of an EMP course a stereotype saying “what is the point if we are going to teach the EMP course as any other subject module in which the French language is highly noticeable if not dominant, I don’t think this is the aim of teaching an English course” (extracted from the audio recordings of the teachers’ interview). She proceeds: “the course of English is very short, it is not given enough time, so why we as teachers deprive students from a real contact with a real English” (extracted from audio recordings of the teachers’ interview). She concludes that, though she has a little experience in teaching EMP, she believes that this strategy should not be used in the classroom, instead she argued that students should be given enough space and time to learn concrete and coherent English so as to impact the policy and to encourage teachers and subject specialists to adopt English as a medium of instruction in the field of medicine.

Question five: the positive contribution of En/Fr Code-switching in developing and enhancing students’ learning skills

The two male teachers responded positively that En/Fr Code-switching could have a positive contribution as it may help students develop certain skills, mainly, vocabulary comprehension and medical terminology. Teacher one argued that, through assessment and evaluation of students, he has got positive results about the students’ vocabulary comprehension. He added that this strategy is fruitful in enlarging the students’ medical glossary as well as in overcoming certain comprehension issues especially when dealing with difficult concepts or difficult pronunciation in English. Moreover, the presentation skills of students whether in solo, pairs or in group works have significantly improved. He claimed that students were not able to engage in a talk or a conversation, they were ashamed or afraid to make an oral presentation of a medical topic but En/Fr code-switching helped them to overcome those obstacles. Students are more confident when they use En/Fr Code-switching. Thanks to the latter they escape awkward situations in the classroom, for instance, they can elude unpleasant stops or pauses that are caused by the lack of the right word or the right pronunciation. Teacher two added that En/Fr Code-switching, not only help student to better understand and grasp meaning of difficult words and expressions, but it also a very effective time-management strategy. He said that what could be done in one hour through a monolingual style we can do it in quarter of an hour through En/Fr Code-switching. Yet, he believes that this strategy does not help students when it comes to reading and writing skills. Both teachers agreed that there should be a moderate and a rational use of En/Fr Code-switching in the meanwhile they emphasise its indispensable importance in the EMP course for both students and teachers.

The female teacher, once again, abstained herself from responding, preferring to keep her neutrality about this point. She, again, justified her answer about the lack of experience in the field of research as she cannot assure something she did not witness. She rather thinks that the emphasis should surround the negative influence of this strategy. She claimed that En/Fr Code-switching could be a misleading strategy, in a way it bluffs the students' understanding with a large number of false friends existing in English and French. She further argued that the over-dependency on this strategy from the side of teachers and/or students makes the EMP course loses its essence. Moreover, too much reliance on En/Fr code-switching may affect the students learning behaviour, in a way they would become lazy with no enthusiasm to search or to check for equivalents in English or new information or expressions. Consequently, this may shrink their knowledge and vocabulary background in English and harm their acquisition of English on a long-term basis. She concludes that even if a great deal of specialists, teachers and researchers may regard Code-switching in general as a positive pedagogical strategy, she believes that this strategy has more negative impact that should be spotted and discussed by researchers.

Question six: the use of En/Fr Code-switching an obligation or a personal choice?

Both male teachers stated that most of the time they feel themselves obliged to switch from English to French and vice versa to serve certain pedagogical tasks or to overcome some learning difficulties. Teacher one stated that, sometimes it is an obligation to switch to French to check the students' comprehension but sometimes it is a gain that emphasises the process of assessment. According to him "a skilled teacher, a performer on stage, can notice whether his students have understood or not but an intelligent teacher can use extra tools to consolidate the information and emphasise the meaning, and here comes the role of Code-switching" (extracted from zoom meeting). teacher two proclaimed that students' temperament is lazy, they do not have the will or curiosity to learn more or to search for new unknown knowledge, they are rather satisfied by the amount of information provided by the teacher. This is why, the teacher finds himself in a situation where he should choose a strategy that is easy and straight to the point in transmitting information, hence, he is more or less obliged to use En/Fr Code-switching. On the other hand, teacher one concludes that the most important part of teaching is to find the right way/s to convey meaning and to make sure that students have grasped the received information, and for technical and medical English Code-switching, here, can support this process. Eventually, both teachers insisted on the point that the use of En/Fr Code-switching

in the EMP course happens unconsciously and most of the time due to critical learning situations. Which means that they do not plan or deliberately intend to switch or make it as one of the prepared plans or objectives before or during the course.

Teacher three, on the opposite, has expressed a different opinion. According to her, no one is obliged to use or to implement any tool or strategy based on imposed circumstances. On the contrary, the teacher should be in control of all situations as he should manipulate the students and the teaching-learning environment to achieve a great deal of his goals. In other words, the teacher should not acquiesce to students' learning habits at the expense of their higher learning attempts. For this reason, she thinks that the use of En/Fr Code-switching is a personal choice as well as a deliberate and a conscious deed, thought about and taken into action by the free will of the teacher in the classroom. she concludes through demonstrating herself as an example of taking a personal choice of not using Code-switching in her classroom as well as preventing students from using it.

Question seven: a good mastery of French language is required to teach an EMP course

At this stage of investigation, the aim of the researcher is to disclose the status of French in the EMP course compared to its status in the medical field, and whether it is mandatory for EMP teachers to have a significantly good level in this language. herein, the three teachers unveiled different opinions. Teacher one said that, to some extent, it is required that EMP teachers should be knowledgeable in French since the latter is the language adopted in the faculty of medicine. Knowing French for him, means acquiring a higher status compared to those who are not competent in French. He justifies that being competent in French and having the ability to use it makes the EMP teacher closer to the subject specialists, giving him/her the opportunity to exchange medical content, to discuss with them, to depend on their knowledge to formulate the appropriate content for his course. As for students, it is important for them to know that their teacher of English knows French and can indulge in discussions about medical topics. Overall, French has a high status, especially in the field of medical sciences as it is closer to English and share many similarities that teachers and students could depend on or take advantage from in the EMP course.

The second teacher, however, believes that all we need as EMP teachers are the good techniques of translation and the appropriate interpretation skills. For him those skills do not necessarily require a good mastery of French but rather a good preparation of the course. he

added that the EMP teacher is not required to communicate with his students in French or to show off his capacities in this language. He rather switches to French to fulfil certain tasks or to overcome certain difficulties. He concludes that, French here is used as a bridge to convey meaning and not as a tool or an independent language for communication. The third teacher, on the other hand, completely rejected the statement. She argued that French, despite its status in the faculty of medicine, should have no status or role in the teaching of EMP, simply because English is sufficiently enough. So, there is no need to use another language (French or Arabic) to fulfil the course objectives. Outside the classroom, according to her, it remains a personal choice to use French or not. She concluded that, from her personal point of view, she does not feel an urge or a necessity to use French inside or outside the classroom, with students or with other staff members especially for communication purposes.

Question Eight: English/French Code-switching an effective pedagogical strategy or an impediment and a language barrier in EMP?

On the ground of the answers previously recorded by the teachers, the latter were asked to show their stand vis-à-vis the regard of En/Fr Code-switching which basically comprises two edges. Therefore, teachers were asked whether they stand for En/Fr Code-switching and advocate its use as an effective pedagogical and communicative strategy, or they stand against this strategy considering it an impediment that hinders the learning process. In this respect, the two male teachers accredited the important assets of En/Fr Code-switching that both teachers and students can benefit from. In addition, they praised its role in meeting the teaching and learning requirements and objectives of an EMP course. However, both teachers insisted that the use of En/Fr Code-switching should not be absolute but restricted by a number of conditions.

Teacher one considers En/Fr Code-switching a supporting strategy that can boost learning, as it preserves time and effort in presenting the course's tasks and instructions. However, its use should not substitute the target language. Then, he stated that as EMP teachers we should not forget the ultimate aim of the course, which means, Code-switching should be used moderately according to the students' level and the students' needs. In other words, with the gradual development of the students' skills and competence, the percentage of employing Code-switching should degrade. For instance, he mentioned that at the beginning of his sessions, En/Fr Code-switching forms up to 50% of his talk. Also, his students are allowed to talk and interact with the teacher and the classmates using code-switching. Once students get habituated with the teaching method and get familiarised with the language, they start

developing their competences to listen to and to speak English. Henceforth, Code-switching became, significantly, less noticeable in their oral production. Consequently, throughout sessions as the level of students raises the percentage of using En/Fr Code-switching diminishes. He further estimates that he starts the annual program with a 50% talk in En/Fr Code-switching and by the end of the year he concludes the program in less than 20%.

Teacher one joined to his answer a point that he considers decisive regarding the use of En/Fr Code-switching. He said that the use of the latter depends heavily on the objectives set by the teacher and the nature of the course. For instance, if the objective today is to tackle the speaking skills of students, the teacher might use En/Fr Code-switching for an explanation or a clarification purpose but students are likely asked to speak in the target language. Another important point is the target population to whom we are delivering the course. He considers En/Fr Code-switching as significantly dominant in communications with subject-specialists, doctors, surgeons, etc, where English is taught for professional more than academic purposes. However, the latter situation, imposes a moderate and controlled use of Code-switching. For instance, teaching the first or the second-year pharmacy students is not identical to teaching the previously mentioned categories. Eventually, he explained that the background knowledge of students (amount of general and professional-related vocabulary), their learning habits and preferences, their communicative and interactional skills, their motivation and enthusiasm to learn English as well as their needs and necessities all of which contribute in formulating the teacher's decision of using En/Fr Code-switching or not. All previously mentioned criteria and considerations may also determine whether the use of En/Fr Code-switching is a success or a failure.

Teacher two explained that what makes En/Fr Code-switching an effective pedagogical strategy or an impediment is not the strategy itself but how we employ it. Which means, the teacher is the only responsible for making this strategy work or fail. He added that, the latter may help students attain not only the present or short-term objectives, for instance enlarging their medical terminology and/or improving their listening but also construct a larger knowledge to attain their long-term objectives like writing research proposals in their domain and reading and analysing professional-related content. Teacher three however, has a completely different consideration as she regards En/Fr Code-switching as a language barrier and a demotivating strategy. She argued that such a use could create a lot of teaching and learning issues, and one of these issues, as she mentioned earlier, is to fall in the confusion and

misunderstanding of false friends. She clarified that there is a large number of identical items in English and French which hold different meanings, and without previous knowledge students may use the wrong word thinking that it has an identical meaning in English. Besides, explaining and highlighting the difference between these false friends is an extra task for the teacher that requires time and effort. Overall, she believes that Code-switching does not facilitate learning, on the contrary, it makes the task more complicated. Therefore, she stated that this strategy is a waste of time and effort. In addition, too much occurrence of Code-switching may lead students to run away from the English course regarding it as no more an English course but an exchange of words and information in English and French. Eventually, she believes that En/Fr Code-switching is a distortion that brings the EMP course out of its real shape and a distraction that prevent students from focusing on essential needed skills.

Concluding question: teachers' further comments and recommendations

As a final step and before closing this interview, teachers were welcomed to add any comments, suggestions or recommendations with regard to the topic of investigation. Henceforth, teachers, one and two, reaffirmed their strong belief that En/Fr Code-switching are significantly utile in supporting the teaching-learning process of EMP. Similarly, they emphasised their constant and undoubted embracement of this strategy in promoting listening and vocabulary comprehension, as well as boosting the medical terminology of students. Nonetheless, they also restated their fears and doubts concerning any inappropriate or uncontrolled use of this instrument that may deviate both; teacher and students, from the course' intentions and objectives. Therefore, they insisted that En/Fr Code-switching should be employed in appropriate amounts and for appropriate reasons.

In the light of what has been discussed, teacher one wanted to make an appeal to clarify some -according to him- misunderstandings or fallacies concerning why teachers tend to use En/Fr Code-switching in this domain while others stick to the monolingual style in the Algerian context, and why this topic is blatantly criticised by the pros and the cons of this strategy. The first point he tackled is that Students' expectations from the English course are very high, and based on this, EMP teachers think that they should speak 100% in English so that learners would learn better and faster, but this unfortunately is neither true nor real. Also, a number of language teachers share the point of view that a monolingual style of teaching EMP is more adequate and productive, for the simple reason that they either do not know French and cannot use it or they cannot tackle medical topics related to the students' field of study. In both cases, teachers shift

their interest towards teaching grammar in which they find refuge to escape a content-based course or as he said: ‘teaching grammar is a loophole to avoid ambiguous or embarrassing questions related to medical content’.

The other category, to which he belongs, he said have another vision, since they follow a content-based approach related to the medical field, in teaching their EMP course. he further elaborates that today there are plenty of teaching materials and manuals, for instance, teachers can talk about the human body, can do experimentations with student, can discuss medical topics, etc. All of this can be done in English but teachers, according to him, will need at least 20% of French as a vehicle to check the students’ comprehension. As a matter of fact, teacher one insisted that EMP teachers are experts in language not subject specialists or doctors, so there should be no confusion or misunderstanding concerning their role and their objectives in the EMP course. in this respect, he stated:

L’enseignant d’Anglais n’est pas là pour apprendre la spécialité, je ne suis ni médecin ni enseignant de spécialité mais je fais du EMP, ça veut dire que je maîtrise la langue et les autres du domaine médical possèdent la matière première. J’utilise les deux langues pour les aider à comprendre par exemple quelqu’un spécialisé dans leur domaine qui parle l’Anglais comme langue maternelle ou deuxième langue, ou bien lire et comprendre un article scientifique en Anglais, etc. (Teacher one, Zoom interview. October 05, 2020)

(The English teacher has no aim to learn the specialty. I am neither a doctor nor a subject specialist, but I do teach EMP (English for Medical Purposes). This means that I master the language, while those in the medical field possess the core knowledge. I use both languages to help them understand, for example, a native speaker who is specialized in their field or someone who speaks English as a second language, or to read and comprehend a scientific article in English, etc.)

Teacher one concluded his last words saying “switch between languages, it is a virtue, *c’est une vertu*” believing that Algerians (teachers) as multilinguals have the capacity to learn languages, and the latter may serve highly significant purposes, especially in the educational field.

To conclude with, the last interviewee, when asked about her last words, comments and/or remarks concerning the topic of research, she raised a number of doubts and concerns. First of all, teacher three stated that she has doubts about an EMP instruction based on code-

switching, but if it is the case and teachers opt for Code-switching rather than a monolingual style, the choice of language should fall on the mother (dialectal Arabic) and not French, the foreign language. she justifies her preference for the mother tongue over French by claiming that students are not proficient in the latter, on the contrary, they struggle studying the subject modules in French, so “why we make the process more complicated for them” as she said. Second, she wondered why some teachers eagerly advocate the use of En/Fr Code-switching in the EMP course regardless of its possible negative impact. Third, she claimed that since English is the language of science today, we should rather encourage students to enter the world of anglophones. She further elaborates that, if we intend to reach high international standards in science and medicine we should push towards a radical constructive change. In other words, teachers should release themselves, as well as their students, from the MI (medium of instruction) obstacle. This would happen only if teachers direct their attention and intention towards encouraging a good full mastery of English. The latter would open huge doors for both subject-specialists and students in their field of research and study. She concluded saying that it is our duty, as language teachers, to urge policy makers to make a change, and once the problem of MI is resolved, English will be promoted and there will be no place for En/Fr Code-switching or a debate about it in the EMP course.

4.3.2.1.2 Summary of the Results

In this semi-structured interview, the answers reported by the three informants shed light on a number of points:

- The findings revealed that there is, not only a controversy about the topic of research but also, a highly significant difference in terms of teachers’ attitudes and perceptions and how they regard En/Fr Code-switching in teaching and learning an EMP course.
- Teachers who use En/Fr Code-switching, acknowledged the several benefits of this strategy in facilitating the understanding and enhancing the students’ comprehension, in attracting their attention and motivating them to be more interested and more involved in the process of learning EMP.
- Teachers recognised the role of En/Fr Code-switching as an effective time-management strategy especially when dealing with medical content and medical terminology.
- Advocates of this strategy believe that it is a solution, not an obstacle, established to solve many learning problems, mainly the students’ comprehension difficulties, and that a clever

and an adequate implementation of Code-switching may result in promoting the students' skills and abilities in dealing with medical content and medical terminology.

- Teachers in favour of En/Fr Code-switching, also, unveiled a misconception that this strategy is thought to be used for teachers' personal interest⁶, their educational and professional status⁷ as well as for social belonging⁸ considerations. They, instead, believe that Code-switching is used first and foremost to achieve purely pedagogical objectives.
- A number of doubts and constraints about the language choice employed in Code-switching, the extent to which this strategy is presented in the course as well as its functions and aims were also subject of discussion in this interview.
- Throughout the interview, teachers brought out the risk of the over-dependency or the misuse of En/Fr Code-switching which may lead students to a refrain from learning the target language, relying merely on French explanations and equivalents.
- The 'too much' or overwhelming content is also one of the points discussed in this inquiry. Some teachers believe that students cannot bear an overwhelming content and an En/Fr based instruction in the EMP course could be confusing and may lead students to miss the real intended objectives of the course.
- Two appeals, from pros and cons, were eventually raised concerning En/Fr Code-switching. The first one calls for a larger implementation of this strategy to support the teaching-learning process, whereas the second urges for an abstinence from this behaviour claiming that the focus and interest should be directed towards expanding the use of English in other

⁶ Some teachers explained that fellows who are against the use of this strategy hold in opinion that the latter is used for the teacher's personal interest and not for pedagogical purposes. For instance, teachers use Code-switching to show to their students that they are capable to speak in French, that they master this language and can use it like other teachers (subject-specialists). Their intention is, then, to satisfy their ego at the expense of the course objectives and this is why they regard the use of Code-switching as futile.

⁷ There is a belief that the use of En/Fr Code-switching is significantly related to the status of French and its dominant role in the faculty of medicine which, supposedly, reflect a well-educated and a highly professional teacher and grant an equally recognized status to that of subject-specialists. Pros of En/Fr Code-switching regard this belief as a fallacy which has nothing to do with the real intention of implementing Code-switching in the EMP course.

⁸ Not using French in the faculty of medicine would make the language teacher the odd one out and would create a distant feeling that he/she does not belong to the other group (subject-specialists), this is why teachers think that the ones who use French tend to get closer to the other members by creating friendships and solidarities.

practices and domains, for instance an English-based instruction (instead of French as MI) in medical fields.

4.3.2.2 Focus Group Discussion (FGD)

As a first step, the researcher explored the students' perceptions and attitudes via a quantitative instrument named the students' questionnaire. She, then, found it necessary to indulge herself in a further in-depth investigation; to reveal the students' thoughts and perceptions about the phenomenon of Code-switching in EMP instruction. More precisely, she aimed to examine the students' feelings and attitudes about both; teachers' and students' En/Fr Code-switching in addition to the students' stand *via-à-vis* the use of this strategy. To do so, the researcher chose the focus group discussion⁹ (FGD) as a qualitative means to collect qualitative data. Therefore, eight students (four males and four females) and an EMP teacher were brought together for a one-hour group discussion.

The researcher opened up the discussion through a brief presentation of herself and the topic of investigation to clarify the aim behind this formal gathering. She, then, highlighted the importance of informants' thoughts and opinions about the subject of investigation which would form a kind of representative data about the teaching and learning of EMP. This may encourage any reluctant student to take part in this inquiry and to explicitly share and exchange his/her opinions with others. The researcher, subsequently, handled the floor to each participant to present him/herself, since they were brought from different classes and taught by different EMP instructors. After that, the researcher with the presence of the EMP teacher, introduced her questions requesting the participants to gently respond or comment on each item providing the opportunity to each of them to share his/her thoughts.

4.3.2.2.1 Results of Focus Group Discussion (FGD) Analysis

Question one: why is learning English important for medical (pharmacy) students?

The majority of participants stressed the importance of English as the language of international communication, the language of science and the language of progress. Therefore,

⁹ for more details about focus group discussion, the reasons behind choosing this qualitative tool, its advantages and its role in this inquiry see chapter three research methodology.

the majority recognised the role of English in their medical field as well as the urge to learn it to promote their knowledge in their area of specialisation. For instance, some participants agreed on the point that learning English would facilitate the access to medical documentation, providing students with the opportunity to become updated about new exclusive information, technology, research and evolution in the medical field. Learning English, for the majority of participants, would grant them the opportunity to cope with international standards of study and to have a recognisable status to that of international students studying abroad. Before moving to the next question, many participants insisted on the need to establish an adequate EMP course and to raise the time schedule for a better contact with and apprehension of English.

Question two: what are the skills you think pharmacy students need to learn and improve?

The majority of participants think that developing speaking skills should be set as a priority and students' first objective is how to be fluent speakers in English. This point is at the summit of the students' objectives and should be, according to them, at the summit of the teacher's objectives as well. Vocabulary comprehension and medical terminology are the second skills that many of participants regard as significantly important and should be, similarly, on the top of the teaching and learning objectives. Furthermore, a number of participants stressed the role of reading and listening skills especially when dealing with medical content. Some of the informants stated that, despite the fact that the writing skill is also important, it could be postponed in the process of learning. In the meanwhile, two participants raised the issue of grammar learning, which they believe is a boring and a demotivating process in the EMP course. In this respect, one of the students stated that the teaching of grammar should be implicit and in no way similar to the grammar taught to first grade students at middle school.

To wrap up this question, the EMP teacher emphasised the importance of learning the skills that were mentioned by students, giving more importance and focus to vocabulary and reading comprehension. He regarded the acquisition of these skills as a cornerstone in building the students' autonomy and competence in English language. significantly, he argued that writing is the highest and most complicated skill that is built upon the students' gradual acquisition of a number of skills, notably, vocabulary, grammar, note-taking and reading. This is why the process to teach writings should be set as a long-term objective. As far as grammar is concerned, the teacher clarified that, due to students' weakness and limited level in English, there is no escape to teach grammar whether explicitly or implicitly.

Question three: what kind of difficulties pharmacy students face when learning English?

First of all, all participants recognised that they have a comprehension issue since they struggle to understand the teacher's talk in English. They do not understand most of the vocabulary employed whether general or medical. They, also, find it very difficult to comprehend or grasp the meaning of an English presented content; whether an audio-visual presentation, a text or the teacher's talk. Furthermore, all participants agreed that not only the teacher's language but also their weaknesses in basically the majority of skills like; grammar, speaking, listening and vocabulary comprehension, participate in making the learning of English a very difficult task. Some informants, though their willingness and enthusiasm to learn English, stated that students are demotivated or lost in the EMP course, due to the fact that they are passive receivers of knowledge since all they do in the classroom is to listen to the teacher especially when the course is about grammar or text comprehension. They stated that the latter is a boring task as it does not meet the students' needs and ambitions from learning English.

The EMP teacher, on the other hand, claimed that students' expectations from the English course are very high, they think that, through EMP course, they would become good speakers, readers and writers. As far as the latter is concerned, they expect their teacher to teach them how to become good writers so as they can engage in a scientific writing experience. He stated that the students' objectives and ambitions depend heavily on their needs and necessities and that those achievements could not be attained unless students acquire the necessary basic skills in English.

Question four: Do you think that studying English via English/French Code-switching will help you overcome your learning difficulties and improve your learning skills in EMP course?

Before attempting to answer the above question, some participants revealed that they switch from English to French in the EMP course. Others stated that they depend, not only, on their medium of instruction in medical studies but sometimes they need to switch to their mother tongue (dialectal Arabic) too. However, since students do not share the same instructor, some have been taught through En/Fr Code-switching, whereas others through a monolingual style of teaching. Yet, the majority of participants agreed that English/French Code-switching can facilitate the learning process and can help students overcome some learning difficulties, notably, the ones related to the teacher's language. Some participants argued that if the teacher uses En/Fr Code-switching instead of a monolingual instruction, students would better

understand the content mainly medical-related. Therefore, they think that this strategy may contribute in improving the vocabulary comprehension and in increasing the vocabulary size of students. Moreover, some participants claimed that the teacher's En/Fr Code-switching may, similarly, have a positive impact on their listening comprehension. Students, also, agreed that this strategy could save time and effort, when the teacher explains new words and expressions or clarifying information, especially the ones retrieved from medical content.

Question five: Do you think that teachers' English/French Code-switching would have a negative impact on your learning and learning skills?

When discussing the possible negative impact of En/Fr Code-switching, Participants expressed their doubts and fears concerning a number of points. First, some participants believe that the issue is not with the strategy of Code-switching itself but how teachers and students use it and to what extent. In this respect, some expressed their fear from the excessive use or the too much reliance on En/Fr Code-switching that would hinder their abilities in speaking, listening and fluency as it would deprive them from a real contact with the English language. Second, some informants doubted that the use of this strategy would be at the expense of the time accorded to speak and interact in English. Therefore, students may be demotivated and/or confused to learn and speak English. Third, some informants think that En/Fr Code-switching would systematically create lazy passive receivers of knowledge. They argued that, instead of learning how to enlarge their background knowledge in English and how to become autonomous searchers and researchers, students would depend on another language's (French) equivalents and explanations. Consequently, this dependency would hinder their ability to indulge in a world of English and to become proficient. Additionally, some students think that the use of En/Fr CS should be restricted to the learning of medical terminology or to explaining medical content and expressions difficult for students to understand. To conclude with, some participants believe that this strategy, if not used for the good reasons and in a limited extent, would hinder the process of learning English.

4.3.2.2.2 Summary of the Results

In this focus group discussion, the eight participants along with the EMP teacher discussed a number of points with the researcher. The latter, based on the FGD, drew the following conclusions:

- Pharmacy students recognised the importance of English and its significant role in their professional development in the medical field.
- FGD results revealed that students acknowledge the several benefits of En/Fc Code-switching in dealing with some learning comprehension issues like vocabulary comprehension and listening comprehension.
- FGD Results unveiled that students consider En/Fr Code-switching as an effective time-management strategy in learning medical terminology and difficult medical content.
- FGD revealed that participants regard En/Fr Code-switching as a pedagogical strategy used by the teacher and the student to achieve a number of pedagogical objectives, mainly developing vocabulary skills and increasing vocabulary background knowledge.
- Results showed that students and teachers use En/Fr Code-switching as a stopgap to compensate for the lack of vocabulary, to encourage the teacher-student and student-student interaction and to overcome communication problems related to the students' weaknesses in English.
- Results also revealed that participants are aware of the possible negative impact of this strategy on students' motivation, skills and learning habits, if not used appropriately or to a considerable extent to meet the learning and the teaching objectives of EMP course.

4.4 Section Three: Discourse Analysis

In this section, we present interpret and discuss the results of English/French code-switching analysis gathered from ten sessions of an EMP course during the first semester. Those courses were presented by three different teachers in the department of pharmacy. Since students were clustered into six groups, each teacher had three different groups. So, the researcher worked simultaneously with both teachers for two months. The third teacher, however, integrated the department of pharmacy as a newly recruited teacher. The latter yielded assent to record for another month. Therefore, the researcher recorded four sessions with the first teacher, two sessions with the second teacher and four sessions with the third teacher. The second teacher was not really a code-switcher or an advocate of the French language in the classroom. Although some code-switched utterances (French and/or Arabic) were noticed in his speech, the monolingual style was dominant. Accordingly, the total number of audio-recorded sessions was transcribed and transformed into a corpus for discourse analysis intents.

It is worthwhile mentioning that, prior to addressing the different functions of code-switching and analysing the teachers' discourse, a representative image of the frequency and

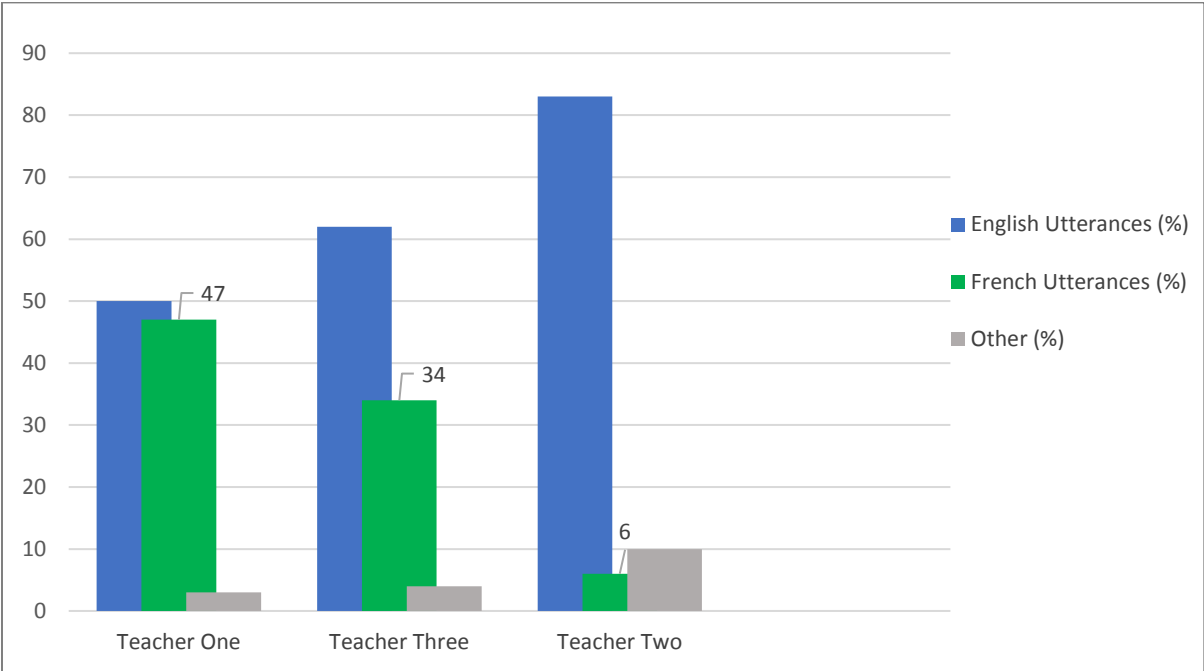
the percentage of code-switching per session and per teacher would provide better insights on each teacher’s interest in and attitude towards this phenomenon. Therefore, a brief quantitative data analysis should be the primary focus in the next point.

4.4.1 Code-switching Versus Monolingual Style Analysis

To reveal the extent to which English/French code-switching is used in the classroom, and to have a concrete representation of this phenomenon, the researcher counted the number of English words versus the number of French words in the transcripts of each session separately, then, sorted out the code-switched compared to the monolingual instances. After comparing between the sessions of the same teacher, and comparing between sessions of different teachers, the researcher deduced a number of significant data that will be presented in the graph below.

Figure 4.12

English utterances Vs French utterances in session one

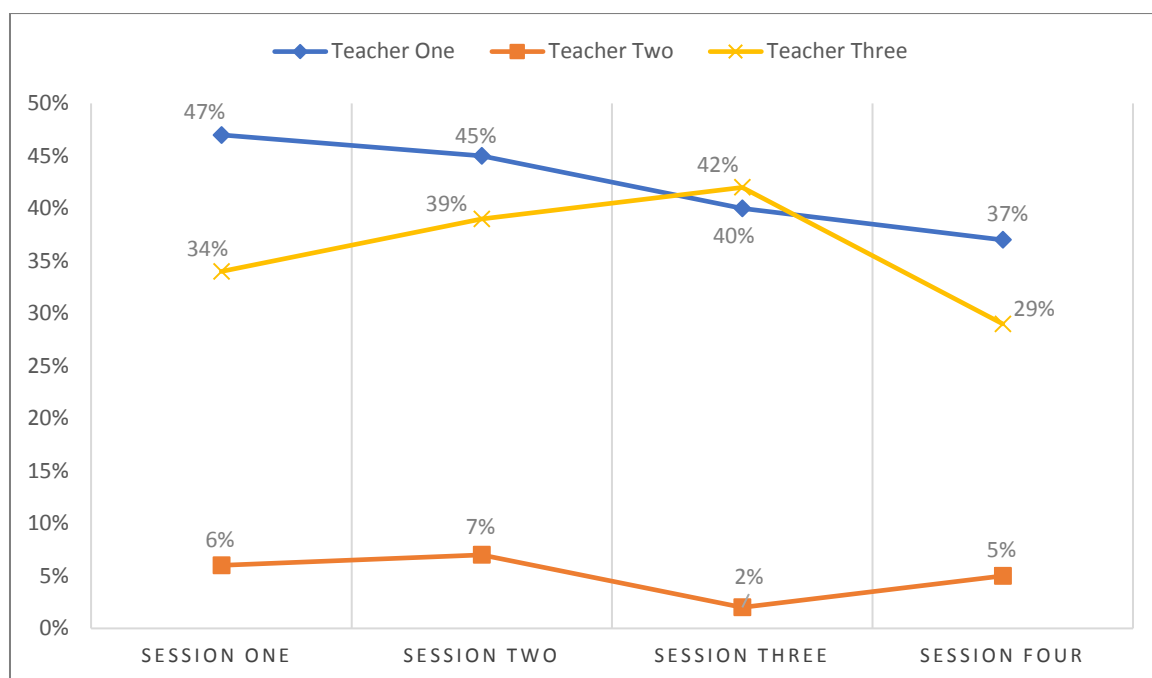


This graph shows the number of French utterances versus the number of English utterances produced, mostly, by teachers during the first session of the EMP course. the analysis of the transcripts of the first session revealed many points. First, the dominant discourse in the classroom is the teacher’s discourse while students are, most of the time, passive receivers of information. So, the teachers’ talk in the first session represents nearly 90% of the overall talk

in the classroom. Second, two teachers (one and three) manifest a high percentage of English/French code-switching in their speech, while the third teacher prefers to present his course in a monolingual style; since more than 80% of his talk is in English. Third, code-switching that is mostly noticeable and frequently occurring in teachers' EMP course links two foreign languages; English and French. Yet, the three teachers resort to their mother tongue (Algerian Arabic) in specific situations¹⁰. Moreover, session one unveiled that, unlike the two others, teacher one seems to depend largely on English/French code-switching in his teaching, since code-switching utterances represent almost 50% of his overall talk.

Figure 4.13

French Utterances from session one to session four



This line graph represents the fluctuation of French instances through four sessions of an EMP course presented by three different teachers. Results showed that, teacher one and teacher three manifest a significantly high level of English/French code-switching in their courses, while teacher two revealed that only 6% percent of his talk is in French. Moreover, teacher one demonstrates a moderate decrease in the use of French from session one to session

¹⁰ It has been noticed that teachers use their mother tongue (Algerian Arabic) in certain situations when they feel the need to do so, for instance greeting students or replying to Arabic greetings, talking or raising cultural issues, referring to religion...etc more details are going to be discussed in the coming section of Functions of Code-switching.

four, and this reinforces his interview statements that he starts his sessions with a high percentage of code-switching, but as he goes along, this percentage is dropped to the minimum. Teacher three, however illustrates a fluctuation in the use of code-switching in her classroom. The analysis of her transcribed sessions revealed that, the course's content and objectives are responsible for determining a high or a low use of code-switching. On the other hand, teacher two' monolingual style remains stable through four sessions, with English as the dominant language of instruction, leaving less than 10% to code-switching between English, French and in certain situations between English and Arabic (Algerian Arabic).

4.4.2 Functions of English/French Code-switching

One of the most important parts of this research, upon which two hypothetical research questions revolve around, is the analysis of English/French code-switching. The discourse analysed has been retrieved from ten sessions of an EMP course presented to second year pharmacy students. In this part, a thorough discourse analysis of three different teachers¹¹ was presented for purpose to retrieve, analyse and discuss the pedagogical and non-pedagogical functions of English/French code-switching in the mentioned course. Since there was a significantly clear difference between the three teachers in terms of code-switching' uses, purposes and reasons, the researcher preferred to analyse each teacher's discourse separately to provide a better and a clearer image on code-switching functions in each discourse. Therefore, the next point will report data from teacher one discourse.

Before delving into the analysis, it is worth mentioning that the three teachers presented different topics and contents in their sessions. Since there is not a fixed course or an instruction to stick to a specific content, neither a specific content is provided by the department of pharmacy as a basis of the EMP course that should be presented to students, teachers, consequently, depend on their own content, personal materials and tools to create an EMP course adequate to their students. For this reason, each teacher is free to present the content he finds suitable to the needs of his students. In this case, the analysis revolves around a mixture of EMP content, in which many language aspects like vocabulary, grammar, phonetics, listening, reading, speaking and writing, etc. are being integrated.

¹¹ The researcher, in his analysis, focused more on the teachers' discourse, since it formulates more than 80% of the overall discourse in the classroom, yet, all code-switching utterances produced by students were also included in the analysis.

4.4.2.1 Functions of English/French Code-switching in Teacher One Discourse

The transcripts of his four sessions revealed that, teacher one is a strong and a passionate supporter of the use of code-switching in the classroom. the extent of English/French codeswitching is significantly large in his course, as he employs code-switching as an integral part of his teaching process. his code-switching utterances manifest a number of pedagogical and non-pedagogical functions, depending on which, he tries to facilitate the learning process, to promote the students' comprehension and to maintain the engagement and participation of learners. In this section, two different parts will be presented; pedagogical and non-pedagogical functions of code-switching.

4.4.2.1.1 Pedagogical Functions of English/French Code-switching

In teacher One discourse, English/French code-switching manifests a significant role in the teaching and learning of English for medical purposes. Therefore, in addition to the general functions, a special focus on code-switching functions in relation to the teaching of English for medical purposes forms an important part of this enquiry.

Table 4.40 below revealed that Teacher One employs English/French code-switching to fulfill various functions in the classroom. These functions are used, first and foremost, to enhance the learners' comprehension and promote their retention and recall of new vocabulary and/or information. Teacher one resorts to French to clarify new vocabulary, to explain phonetic, pronunciation and/or grammatical rules, to check the students' comprehension and to emphasize important points or concepts from the content. by referring to English/French parallels, he tries to bridge the students' unfamiliar English knowledge to their French familiar knowledge, as well as to draw their attention to the similarities and differences between both languages to avoid confusion or misunderstanding.

Table 4.40*Common Pedagogical Functions of En/Fr CS in Teacher One Discourse*

Functions	Description	Illustration/Examples
Clarification and explanation of new vocabulary	The teacher uses French to clarify new English terms, to help learners easily grasp and retain the meaning	"To catch, <i>c'est le verbe attraper</i> ", "For roughly, <i>c'est approximativement</i> ", "to squander <i>veut dire gaspiller</i> , to waste"
Clarification and Explanation of grammar/phonetic and pronunciation Rules	The teacher switches to French to explain and clarify grammar and phonetic rules to reinforce the students' learning and to highlight the similarities and differences between English and French	" <i>Il</i> (teacher repeats it in French) illegal. Like French right?", " <i>Le (au) se pronounce /ɔ:/Right?</i> " "Another... <i>on fait une pression sur le n.</i> ", "Social asocial... <i>c'est /ai/ afebrile, pas /ə/. En français on dit afébrile ou bien apyrexique</i> "
Checking students' comprehension	The teacher switches to French to check students understanding and to ensure comprehension before moving to the next step	" <i>Vous avez des questions concernant le A ?</i> ", " <i>C'est clair ?</i> " " <i>d'accord?</i> " <i>ça va jusqu'à ici ?</i> " " <i>Vous comprenez ?</i> Do you understand ? " <i>Vous avez compris le sens ?</i> "
Repetition/ reiteration for reinforcement and emphasis	The teacher repeats the word or the expression to reinforce and emphasize the meaning, for a better understanding and a better retention of information	" <i>Le EA c'est toujours un long i.</i> EA is always a long /i:/", "Wheezing, <i>c'est toujours un /i:/</i> , wheezing always with a long /i:/ ", "I'm breathless, <i>j'ai l'essoufflement, j'ai l'essoufflement</i> "
Translation for comprehension and clarification	The teacher translates difficult or unfamiliar terms/expressions to help facilitate the understanding of new vocabulary, mainly, for students who struggle to learn monolingual content	"civil servant, <i>un fonctionnaire</i> ", "a locum, <i>un remplaçant</i> ", "bouts, <i>c'est les crises</i> ", "medical ethics, we say <i>l'éthique médicale ou bien la déontologie</i> ", "give or take a day <i>c'est plus au moins</i> "

Drawing parallels between English and French	The teacher switches between English and French mainly to highlight similarities and differences in vocabulary, pronunciation and also grammatical rules	"phlegm, <i>la mucosité</i> , okay! <i>on est d'accord! La mucosité et non pas le phlegme</i> ", " <i>hémorragie</i> , <i>haémorrhage</i> , <i>le H est une lettre muette en français</i> , but it is not in english"
Correction and feedback	The teacher uses French as a strategy to provide immediate correction or clarification for mistakes/misunderstandings	" <i>Non regarde ! Breath c'est un nom donc, breath avec /θ/</i> ". " <i>Non! Le A comme ça /æ/!</i> and schwa <i>c'est un E inversé comme ça /ə/</i> ".

Although data in table 4.40 does not reflect on all pedagogical functions, it sets an overall picture of the most common, recurring ones in teacher one's discourse. However, greater emphasis is placed to identify and analyze other significant pedagogical functions, which the researcher considers necessary to mention below:

1. Code-switching as Classroom management strategy

Classroom management is one of the key elements of a successful pedagogical course, since teachers use different strategies to maintain order, to guarantee a natural transition between the course sections, tasks and objectives as well as to ensure discipline and organisation. Teacher one uses English/French code-switching as a strategy to direct students' attention to tasks; for instance, "*Alors suivez s'il vous plait*, the dialogue is like this.", or to clarify tasks and activities, like in "we are going to practice together. *Dans le dialogue vous allez entendre des mots avec le son A. on va voir la prononciation ensemble. Alors suivez svp.*" Teacher one, also, depends on French/English code-switching to handle situations of disruption or interruption, as well as, to maintain order and discipline, for instance; "*teacher: le téléphone est en train de vibrer!*" *student: ya! sorry!*", "*Would you please stand up, yeah! S'il vous plait, un peu de silence!*". it is also noticed that teacher one uses code-switching as a time management and a time saving strategy to ensure that students are following the instructions and to guarantee the non-repetition of the latter. For example:

- "*Vous allez écouter le dialogue trois fois. D'accord! La première fois vous écoutez seulement! okay! So, can we start?*".

- "Vous avez deux phases. Normalement c'est Listen and then determine, la troisième c'est la confirmation. Vous avez 10 minutes !".
- "Student: what is give or take a day? Teacher : *tout simplement c'est plus au moins*".
- "*Suivez et appliquez les règles. Tout simplement!* so, let's do it".
- "*Oui ! C'est bon ! on peut continuer !* Next sentence please! "

In many instances of English/French code-switching, teacher one resorts to this strategy to keep the classroom focused and to maintain discipline, while ensuring that students are engaged and are following the rules and instructions. Moreover, teacher one, also, depends largely on CS to preserve time during explanation, since he prefers to give quick short instructions or explanations in a language he assumes every student knows, rather than using a monolingual approach that may lead students, who are still constructing their knowledge and skills in English, to comprehension issues.

2. Clarification of concepts, rules and/or instructions through code-switching

Probably the largest category of English/French code-switching instances in teacher one discourse serves as a strategy to clarify and explain words, phrases, sentences and even idiomatic expressions, in addition to explaining and clarifying a number of grammatical, phonetic and pronunciation rules. Teacher one uses CS as means to assist learners' understanding, to clarify ambiguities, and to clear up any misunderstandings particularly when he presents new concepts or complex rules. CS, in this case may ensure that students grasp every single part of the lesson. For instance:

- "Give or take a day. *C'est l'habitude de dire plus au moins.*"
- "*Alors breathlessness dérivé de ? C'est un nom Breath! la respiration Right! Le suffixe less pour indiquer le contraire comme le (es) dans essoufflé, souffle essoufflé. Breathlessness c'est l'essoufflement. Donc pratiquement c'est la même structure*"
- "*Pourquoi le A est devenu E ? on a un accent tonique ! Who says another? Yes, pourquoi? Stress!* "
- *Week week. Le double e (ee) se prononce toujours i allongé /i:/. Yes!*"
- "*You've had the reason. Vous avez eu la raison. Donc on a the perfect tense in English l'équivalent du passé composé en français* "
- "*On a ajouté le (ing) en français c'est le gérondif comme le (ant) on ajoute (ing) a un verbe pour l'obtention d'un mot*".
- "*Quand on a une combinaison de EA le A ici ne se prononce pas. Oui ! Is it clear !*".

- "Le AU se prononce o /ɔ:/. Rough, tough, cough, laugh, etc Le gh ici devient F en prononciation".

3. Code-switching to foster students' participation and to reinforce learning

Throughout the teaching and learning process of English for medical purposes, students remain passive receivers of information. While teacher one is aware of this fact, he tries to find alternatives to encourage students to participate and interact in the classroom and thus, to reduce his dominating talk. For this reason, teacher one finds refuge in English/French code-switching to incite students to be active and to motivate them to engage in the learning process. for example:

- Teacher: How can we pronounce this word?
(students are remaining silent)
Teacher: yes! *qui peut répondre? Comment prononce-t-on ce mot?*
Students: head, head !
- Teacher : *Répétez après moi 'head,' 'breath,' c'est quoi le son ici?*
Student: head! breath! *A voyelle muette ! it is a short e!*
- *Donnez-moi un mot similaire en français. Ensuite, on le dit en anglais.*
- *Est-ce que quelqu'un d'autre veut essayer ? yes ! Ne soyez pas timide ! Allez, on essaie ensemble.*
- *Why does it change here? Expliquez-le en français si nécessaire.*

By promoting the students' talk in an alternative manner, teacher one through English/French code-switching is creating a friendly and comfortable atmosphere for students to participate and to build confidence in themselves to talk and share with the teacher and classmates in a less awkward environment with less intimidating students. This step may lower the language barrier and make students at ease to discuss and share their answers and comments with classmates, and thus, they become actively engaged in the learning process.

It is worth mentioning that a number of code-switching instances, that occur in teacher one discourse, and serve other functions related typically to the teaching of English for medical purposes (EMP), reoccur in teacher three discourse with systematically the same functions. For this reason, the researcher preferred to tackle non-pedagogical functions of code-switching in teacher one discourse, leaving the part of code-switching in relation to the teaching of EMP, as a common point in teacher one and teacher three discourses, to be discussed eventually.

4.4.2.1.2 Non-Pedagogical Functions of English/French Code-switching

Code-switching serves not only pedagogical purposes such as clarifying and reinforcing knowledge, but it also frequently reflects non-pedagogical intentions, for instance, showing social belonging and cultural bonding, managing social interactions, expressing identity, showing solidarity and/or engaging in informal discussions. All of which has an objective to create a friendly interactive atmosphere and to maintain the communication link with learners. In teacher one discourse, the researcher identified and analysed a number of non-pedagogical functions which will be discussed next:

1. Code-switching in managing the classroom environment

While code-switching can be used as a pedagogical strategy to manage the classroom instruction in general and to facilitate the transition between the tasks and activities in particular, it can also be used to manage the general atmosphere of the course and to deal with disciplinary or administrative issues, for instance; granting permissions, discussing the schedule of extra-sessions and/or date of exams, dealing with interruptions, etc. For instance:

- Teacher : *Mettez vos téléphones en mode silencieux please !*

Student : *pardon monsieur !*

- Teacher : *tu peux sortir !* (teacher grants permission of leaving the classroom)

Student: *hank you Sir!* (student acknowledges the teacher's permission) .

- Student : *monsieur j'ai un déplacement la semaine prochaine ! Je peux m'absenter ?*

Teacher: *as you wish !... mais il faut pas dépasser trois absences non-justifiées par semestre, right ! si non t'auras des problèmes avec l'administration.* (the teacher, here, is responding to a student's request about future absence, he switches to French to remind students of the department policy to avoid having issues with the administration).

- Teacher : *Vous êtes libre de partir, à la semaine prochaine Insha' Allah¹². See you.* (teacher one, shifts to french to dismiss students indicating the end of the session).

¹² Insha'Allah or "if God wills" is a common expression used typically by Muslims and generally by Arabs or communities with a massive Arab/Muslim population, like France, holding a religious connotation that one's hopes and intentions for something to happen in the future depends on Allah's (God's) Will and that it occurs only if Allah allows it. In the example above, the teacher, by using this expression, shows a religious and a cultural bonding with his students who share the same religion and culture.

Teacher one combines English, French and in few cases Arabic (dialectal Arabic) code-switching to manage the flow of the classroom. For instance, expressions like "*Alors, on fait une pause?*" (Shall we take a break?) or "*Oui, c'est bon!*" are used to check on students' engagement and readiness or to provide informal instructions. This strategy helps both; the teacher and the learners, to create a comfortable teaching/learning environment. Moreover, teacher one, has been witnessed to use code-switching for non-pedagogical intents, to regain students' attention and to maintain classroom discipline. For instance, when a student says "*il fait chaud*", and teacher one suggests that she opens the windows, he created, through code-switching, a more casual interaction in which students are more relaxed, yet maintaining discipline and focus.

2. Code-switching in informal discussions and social interactions

It has been noticed, through a large number of instances, that teacher one switches his code to French whenever he moves from formal/ academic discussions to informal/social ones. Pharmacy students, similarly, depend on English/French code-switching to engage in informal discussions with classmates or with the teacher. For instance, teacher and students' greetings are in French and English forms, sometimes the teacher initiates the greeting in French, sometimes students do. Generally speaking, teacher one resorts to French to address his students' needs and preferences, to deal with classroom disruptions and/or to break the formal instructional mood, so as to provide students with enough space to express themselves, to share their thoughts and emotions as well as to engage in everyday classroom interaction. This strategy helps students, especially those who rely a lot on French, to develop self-confidence and to be less intimidated and less stressed to learn English in a more positive collaborative atmosphere.

A number of examples of teacher and students use of English/French code-switching in informal discussions and social interactions are going to be stated below:

- Teacher : *malheureusement ! Pratiquement c'est comme l'année passée hum ! En mois de décembre il faisait très chaud ! Enfin je pense que c'est de pire en pire !*

Student: *c'est dû au réchauffement climatique Sir!*

Teacher : *Eh oui le réchauffement climatique ! yes ! The global warming!"*

Teacher and students, in the example above, are handling an informal discussion about the climate change, particularly in Sétif which is known for its cold weather in winter. The teacher is expressing his sad feeling towards the change of climate in Sétif which becomes

strangely warm and getting worse, as he said, in the future. One of his students replied that what is happening is because of the global warming. The student replied in French, since he does not know the expression in English. The teacher, then, confirmed the idea and provided the English equivalent. In this case the communication flow was maintained and a new English expression has been provided.

- Teacher: Muscle but it is not the same thing it ends in LE. Muscle. *Oui?* What do you need?

- Student: *une feuille !*

Teacher : *une feuille ? yes! tiens, tu peux prendre plus, yes !*

Student : *non une seule ! merci monsieur.*

Another example where communication is maintained without focusing on language boundaries, is highlighted above. Teacher one makes an instant short switch to French to address a student's immediate need in a supportive conversation. The student was the first to switch the code, asking the teacher if he can handle a sheet of paper, the teacher, then, preferred to keep the same code (French) and to immediately respond to the student's request by granting him permission to take, if he wants, more than one sheet of paper. Student, after that, respectfully declined his offer taking just one sheet appreciating his teacher's kindness and generosity.

- Teacher: *Bonjour!* Good morning! cava!

Students: *bonjour Monsieur!*

Teacher one, in this example, switches to French for the greeting. He intends to create a friendly environment in which students would feel comfortable and less intimidated, especially when they engage in discussions. More than that, teacher one, tries to imitate a medical setting where French is used as a medium of instruction and is present in almost all aspects of the classroom and where students and subject-specialists are habituated to greet each other and handle discussions in French. By this behaviour, teacher one tries to provide students with an equivalent climate where students are not obliged to change their habits, or make efforts to be anglophones. Thus, making students at ease and delivering knowledge in the most comfortable way possible is the reason why teacher one switches to French.

Another important point for alternating between English and French in the classroom, is to express humor or to make funny comments or even to recite anecdotes. Teacher one depends, heavily on French, in discussions where humor and jokes inflect the discourse. The

reasons why teacher one resorts to French in such cases and the examples related to this type of code-switching are going to be explained in the coming point.

3. Code-switching to express humor, jokes and/or to tell anecdotes

To create connection with students and to break the formal atmosphere of the classroom, teacher one often resorts to English/French code-switching as a strategy to express humor, to tell jokes or to recite anecdotes. There is a variety of code-switching instances denoting humor or signaling a funny language in teacher one discourse, among which are the following examples:

- Teacher: Indeed ! *l'accent la plus parlée c'est bien l'anglais américain grâce à l'intelligence de Trump!* (teacher and students laughing)! it is thanks to the intelligence of Americans.
- Teacher: Diabetes (british prononciation) *ça vous rappel quelque chose ? les bêtises !* (teacher and students laughing)
Student : to die *plus les bêtises die bêtises* (students laughing) *devient diabetes.*
Teacher : (laughing) *si vous voulez, diabetes!"*
- Student : *moi je serais ravi si j'apprends juste un seul accent* (american or british accents)
Teacher : (laughing) *pourquoi pas les deux ! Insha'Allah! Why not!*
- Teacher : Sorry for interruption, *vous avez des étudiants du B2 qui ont des questions pour vous ! Ils veulent vous poser des questions ! Harcèlement de questions !"*
- Teacher: Would you please stand up, *s'il vous plaît un peu de silence!* Yes, how many? questions?
Student: Five.
Teacher: "*Cinq!* Oh, that's a lot of questions! (teacher mocks)
- Teacher : Jogging. *Comme disaient nos grand-mères Jokking. Jokking /ʒɔkɪŋ/*" (teacher and students laughing)
- Teacher: *Donc vous commencez à maitriser les sons en Anglais.* All right? So next week we'll continue practicing. *La semaine prochaine Insha'Allah on continue avec la pratique.*
Student: "*On termine!*" (ironically replying "we're done!")
Teacher: not yet! *On a encore une heure de temps !* (teacher laughing) I'm just kidding! five minutes and you are free to go! Okay!.

Teacher one, in the examples above, depended on English/French code-switching, in many occasions, to create a relaxed and a comfortable atmosphere for students, to make them feel less intimidated so as they can enjoy the learning process. Code-switching, here, is used as a reinforcement strategy to build a strong bond between the teacher the students and to create a sort of a friendly connection between them. Therefore, the process of teaching and learning English would be less stressful and more enjoyable, especially for students who are more comfortable with French and advocate its use in the classroom.

It is worth mentioning and as highlighted in previous data, that teacher one made use of not only English/French code-switching but also Arabic (and dialectal Arabic). Though instances where Arabic was employed are very limited, teacher one, for instance, refers to this language in expressing humor and telling jokes when he felt that his students need a slight reference to their culture. So, to convey the meaning of the joke and/or to transmit the humorous message without confusion or misunderstanding, teacher one resorts to his, and his students', first language.

Pharmacy students have been witnessed to use humor or to reply on their teacher's humor, using English/French and sometimes English/Arabic code-switching as a means of communication. For instance, teacher one recites an anecdote about his students of another group saying; "*Comme le groupe d'hier qui m'a fait une blague là-dessus. Ils ont dit que parce que c'est la police (الدولة), c'est pour ça we say 'are!'*" (Like the group of yesterday that made a joke about this. They said it's because it's 'the state' that's why we say 'are!'). while teaching students the plural forms in English, teacher one uses English/French code-switching to share this humorous anecdote from a previous group who expressed a funny joke about the word police in the plural form. Teacher one, therefore, illustrated a grammatical point, using a funny tone to reinforce the learning and to connect with students. Another example when a student refers to diabetes as "*les bêtises du Sucre*" (the sugar mischiefs), which prompts the teacher to laugh and to repeat the joke. The use of French, here, adds a touch of humor to a serious topic, making the discussion about it more lighthearted and approachable.

4. Code-switching for social solidarity and professional belonging

One of the important non-pedagogical functions of English/French code-switching in teacher one discourse, is the use of this strategy to show solidarity with students, as well as to manifest a social and a professional belonging to their field of study (medicine) in general, and medical teaching staff in particular. Teacher one, in many occasions, switches to French to

express his gratitude to subject specialists, to praise doctors and professors in the domain of medicine and/or to show his familiarity about certain members from the same field. One of the reasons behind such a use, is to strengthen the teacher's relationship with his students and to build a trustful bond with them, so as to consider him as a member, not an odd, in the faculty of medicine. Therefore, the teacher intends to gain equal respect -as other subject-specialists and subject matters- for himself as a teacher, as well as for his profession; teaching English for medical purposes. Moreover, gaining such a status and breaking down the barriers with students will foster a relaxed, welcoming atmosphere, as it will make both; teacher and students, engaged in an open, friendly and interactive communication. Here are a number of examples:

- Student : *je préfère l'accent américain, il me paraît plus facile !*

Teacher: *Moi aussi je n'aime pas l'accent britannique, I prefer American English, l'accent britannique c'est ma bête noire je n'aime pas !*

One of the students is expressing a personal preference concerning the English accents, preferring the American over the British one. Teacher one, similarly, is showing solidarity with the student through expressing his dislike vis-à-vis the British accent and likewise, the teacher prefers the American accent instead.

- Teacher: *Ah tu n'as pas de copies? Donc, six il te manque quatre !*

Student: *J'ai quatre copies, seulement deux !*

Teacher : *Yes please ! Donnez-lui une copie en couleur s'il vous plaît parce qu'elle va réclamer ! Je te connais Aya !*

- Teacher : *Ah docteur rahmoun ! Oui ! Je le connais ! c'est un jeune ! Très gentil très modeste!*

- Teacher : *Vous connaissez Dr Zighmi ? elle est à El Eulma je pense !*

Student : *Oui ! c'est ma sœur !*

Teacher : *Ah C'est votre soeur! Allah Ybarek¹³ ! Vous lui passez le bonjour de ma part.*

- Student : *on préfère docteur Karmi !*

Teacher : *ah oui un vrai professeur ! il a une bonne réputation, je le connais à peine ! Mais j'entends les gens parler de lui, et docteur Chehili aussi ! Bref !*

- Student : *on serait ravis si on apprend juste un seul accent !*

¹³ Like Insha'Allah and other expressions, Allah Ybarek or May God Bless is common expression in Algerian Arabic used by the members of the community who share the same religion, Islam, to express praise, gratitude and/or admiration.

Teacher : *pourquoi pas les deux ! why not both ! Insha'Allah ! rien n'est impossible avec la volonté.*

The above examples highlight the use of French in the teacher's and the students' discourses. These examples, as many other instances, demonstrate that English/French code-switching plays an important role in maintaining a sense of solidarity between the teacher and the students. It also fosters a close relationship and connection between them in a less formal and comfortable atmosphere, considering the teacher of English as a member of the faculty of medicine and not a strange anglophone who has knowledge only about language. therefore, one of the reasons behind the use of English/French code-switching, beyond the academic and pedagogical development, is to break ice between the teacher and the students through creating a strong social and professional bonding and nurturing a positive and a collaborative learning environment.

5. Code-switching for cultural identity

Teacher one switches from English to, not only French but in some cases, Arabic and Algerian Arabic to relate to his and his students' culture (Arabic culture¹⁴), to provide and discuss cultural-related topics and/or to highlight nuances among different cultures. For instance, During the lesson, teacher one made reference to a student's Palestinian scarf saying "*L'écharpe palestinien yes! Yes! Palestinian scarf comme le tien Mohamed !*", the student replies, expressing pride and solidarity of wearing this scarf by saying "*je le porte avec fierté*", and the exchange continues with the teacher humorously stating "One two three *vive l'Algérie et Vive la Palestine!*". Students react with laughter, but the teacher proceeds in a more serious tone "*La Palestine fait partie de notre identité!*". In this example, teacher one conveys a profound cultural belief that algerians share a deep bond with the Palestinian cause. Teacher, then, reinforces his belief by saying : "*Tu ne trouveras pas un Algérien qui peut dire le contraire!*". Other examples that may put emphasis on the point discussed in this part, are presented as follows:

¹⁴ Arabic culture is part of, but not the only culture, of the Algerian community. the Amazigh (Berber) culture is also a significantly part of the whole which participates in forging the cultural identity of the Algerian multilingual society. Yet, when we talk about Arabic culture, we made reference to primarily religious and secondly Arabic shared stances.

- Teacher: *Y'a beaucoup de mots arabes qui ont été adaptés par d'autres langues comme le français, l'anglais, l'espagnol !* (teacher one, here, opened a brackets to talk about the influence of Arabic on other languages).
- Student : *C'est eux qui ont pris de l'arabe comme 'magasin' par exemple c'est un mot d'origine Arabe.*

Teacher: *Oui effectivement ! comme 'sugar' pris de l'arabe, en allemand 'zucker', then to sugar.*" (teacher and students are discussing the origin and etymology of words in relation to the Arabic language).

In the course of teaching, it was also noticed that teacher one employs idiomatic expressions when he talks or addresses his students. The use of these expressions happened in English as well as in French and in few cases in Arabic (Algerian Arabic). the use of French, though depicts a different culture (French culture), remains an important tool to convey a cultural embedded meaning in the Algerian society. For instance, teacher one by saying “eh oui *c'est la vie !*” or “the British accent *c'est ma bête noire !*”, “April showers to be clear not *Poisson d'Avril ! D'accord !*” or “*Grosso modo*¹⁵” refers to a number of idiomatic expressions in French or highlights the difference between English and French expressions. All of this is a sign of code-switching implementation to convey cultural meaning or to manifest cultural nuances, which is one of the non-pedagogical functions of this phenomenon in teacher one’ discourse.

It is worth mentioning that, teacher one, occasionally, switches to Arabic to provide context for culturally specific references, especially when students fail to understand the French equivalents or when they show no reaction or positive confirmation that they have understood. In this case, the teacher resorts to Arabic, through which a common social and cultural background is shared with students, to address some of their learning issues. For instance, the word "tonsils" was provided first in English, then in French to check if they have understood what does it mean. The teacher, in the course of explaining, noticed that students remained silent, so he assumed that they had a comprehension issue. Therefore, he referred to the word in Arabic which is (اللوزتين, *al-lawzatayn*), and to be more concrete, he also provided the

¹⁵ ‘Grosso modo’ is a latin expression, used mainly by French speaking communities, which means approximately or roughly in its literal meaning, as it may refer to the expression ‘generally speaking’.

equivalent in Algerian Arabic (القرّاجم¹⁶). other words presented in three languages like mortgage, in French *l'emprunt du logement* and in Arabic (الرهن, *al-Rahn*) or Rickets, in French *le rachitisme* and in Arabic (الكساح, *al koussah*). Code-switching between English French and Arabic, here, helps to connect the concepts to the students' cultural background, making it more relatable and understandable.

Other instances which demonstrate a cultural and a social identity are highlighted when teacher one makes use of French and Arabic to adapt the content culturally. For instance, the word "*climatiseur*" in the example where students said "*on a besoin d'un climatiseur*" to express the need for an air conditioner since the classroom is very hot, and when teacher one replied "*climatiseur!*" (teacher laughing) *vous avez de la chance, y a des fenêtres !*". Other statements like Insha'Allah, Allah Ybarek, masha'Allah were used in situations of praising, expressing wishful and hopeful statements, or when concluding the lesson. These expressions have a religious connotation and depict an Arab Muslim identity that reflect the teacher's cultural pride and solidarity. Code-switching, in this case, is implemented as a way to contextualize learning within the students' everyday environment. Accordingly, this cultural adaptation provides comfort, ensuring that learning is connected to their personal experience and everyday language.

To sum up the first part of the analysis, and before moving to the second teacher's data, a general overview about code-switching in teacher one discourse forms the concern in this paragraph. First, teacher one is the most advocate and the biggest user of English/French code-switching in the EMP course. Second, the intentions and reasons for depending on this phenomenon as a discursive practice are both pedagogical and non-pedagogical, yet the former depicts a larger category. Third, teacher one used code-switching in many pedagogical functions to support the teaching and learning process, for instance; introducing new vocabulary, emphasising key points, facilitating teacher-students and student-student interactions, etc. another point and another emphasis revolve around the non-pedagogical functions of codeswitching which show a significantly important role in managing the classroom, building rapport with students, creating a more dynamic and an interactive classroom environment, and facilitating cultural and social connections. Therefore, code-

¹⁶ (القرّاجم) (*legrajem*) pronounced /legrɑdʒem/ a common word in Algerian Arabic referring to tonsils, yet this word is known more in the eastern region, like in Sétif. In the region of the west, Algerians tend to say and use the word (الحلاقم) *lehlaa'qem* which is pronounced /lehla:kem/.

switching in teacher one discourse, not only have an impact on the learning of English but also, can make the learning experience more enjoyable and personally meaningful for students.

4.4.2.2 Functions of English/French Code-switching in Teacher Three Discourse

Teacher three is the third teacher who integrated the faculty of medicine to teach English for medical purposes. The researcher preferred to follow a chronological order in labelling the teachers, but in the analysis, she chose to deal first with the largest categories then to move to the least. That is, teacher one represents the largest category of code-switching instances and, logically speaking, the largest analysis, while the second category is represented by teacher three, which manifests a significantly high percentage of code-switching occurrences in her classroom, too. The least depending teacher on this strategy is teacher two, where the percentage of CS all along does not exceed 10%. This is why teacher two is represented in the third coming part.

Teacher three discourse functions of code-switching fall heavily in the same line of that of teacher one, since both use English/French alternations to perform a number of functions in the EMP course. Yet, there are some differences and nuances that should form the focus of this part. Teacher three uses this strategy, systematically, to fulfill many pedagogical functions that are going to be discussed separately in the coming section.

4.4.2.2.1 Pedagogical functions of Code-switching in Teacher Three Discourse

The analysis and interpretation of her four sessions, revealed that Teacher three, as teacher One, is a strong user and a strong promoter of English/French Code-switching in the EMP course. Her teaching approach reflects a multilingual instructor with the ability to switch between English, French and in some cases Arabic (Algerian Arabic) seamlessly. Accordingly, she adopts a dynamic and an engaging style of teaching that encourages the students' participation and fosters the teacher-student and student-student interaction. Throughout the sessions, teacher three was spotted using En/Fr code-switching as a tool to clarify new or difficult concepts, to emphasize key points and highlight important ideas, to check students' understanding and to provide immediate feedback on their contributions. Additionally, she employed code-switching not only to manage time efficiently but also as a classroom management strategy.

1. Code-switching to manage time and classroom instructions

Teacher three used English/French code-switching frequently when providing and clarifying instructions, to make sure students understand the content and the tasks they have to deal with. She also used this strategy to deal with the course's transitions, especially when she moves from one topic to another or from one task to another. Through code-switching she guarantees the smooth precise and concise instruction, and thus keeps the students' attention on track. Accordingly, this strategy is effectively employed to handle students' educational or informal requests, to address students' issues whether; disciplinary or administrative, to encourage students' quick responses, to maintain an efficient classroom control and to prevent time-wasting interruptions. Here are a number of examples from teacher three discourse, each of the following will be presented with a brief description of the context.

- Teacher: Anyway! *Bonjour cava ? Tout va bien ?*
Students: *Bonjour Madame*
Teacher : so before we proceed with this session *je veux faire une petite révision.*
- Teacher: last time? *On a parlé de quoi ? Rapidement ?*
Students : suffixes
Teacher : *oui ! la dernière catégorie ? rapidement s'il vous plait !*

In the first example, teacher three used CS when she moved from informal greeting to the warming-up, or in the second example, when she made a quick recap of the previous session encouraging students to engage in the discussion and insisting on quick and brief responses so as not to waste time. Here, CS is used as a classroom management strategy to smoothly transition between formal and informal talk or to capture students' attention and focus.

- Teacher : *Ne me demandez pas un polycopier, s'il vous plaît !*
- Teacher : *Je vous donne les règles ! ... alors pourquoi vous voulez une polycopie ! vous pouvez prendre des notes !*
- Teacher : *Je dois vous transmettre le document... j'ai besoin d'un intermédiaire ou bien l'email du délégué s'il vous plait ?*
- Teacher : *Le délégué a accès à votre groupe sur Facebook ! donc il peut téléverser le fichier pour vous ?*
Students : *oui madame.*
- Teacher : *Vous n'êtes pas concentrés ! You are absent-minded! Un peu de motivation !*

- Teacher : *On n'aura pas le temps de faire tout ça, vous gardez les exercices pour la prochaine fois ! d'accord !*

From the examples above, we can notice that teacher three resorts to code-switching in certain situations to make sure the instruction or the message is successfully and quickly conveyed to learners. Addressing certain issues, like students' attendance, deadlines for tasks and activities, classroom logistics and administrative instructions through code-switching is, according to teacher three, an efficient strategy that enables clarity and quick comprehension as it ensures immediate feedback by avoiding misunderstandings. Hence, English/French code-switching appears, in her discourse, as a classroom management strategy that facilitates a clear instruction making the students attentive and focused and the learning environment structured and disciplined.

2. Encouraging participation through code-switching

Teacher three switches the code to French to encourage her students to participate in the EMP course. One of the aims of this strategy is to lower the language barrier and to make the tasks less intimidating, and thus, soliciting an active engagement and a dynamic interaction in the classroom. She depends on English/French code-switching to make the pedagogical instructions and questions easier to understand, mainly when students are struggling with the content in English, or when students are intimidated to talk and to share their ideas in a monolingual style. Henceforth, code-switching helps students in reducing anxiety and building a better confidence in themselves, to discuss and share their answers with peers and to participate in individual as well as in group activities. For instance:

- Teacher : *Pourquoi le son change-t-il ici ? quelqu'un peut me donner une explication ? en français si nécessaire ?* (Why does the sound change here? Who can give me an explanation in French if it is necessary?)
- Teacher : *Quelqu'un peut me donner un exemple d'un mot avec la même structure ?* Yes? (who can give me an example a word of the same structure?)
- Teacher : *Écoutez bien, et ensuite, on va discuter ce que vous avez entendu. Qui peut commencer?* (Listen carefully, and then we will discuss what you heard. Who can start?)
- Teacher : *Est-ce que quelqu'un d'autres veut essayer ? Ne soyez pas timide!*" (Does anyone else want to try? Don't be shy!)
- Teacher : *Donnez-moi un mot similaire en français. Ensuite, on le dit en anglais.* (Give me a similar word in French. Then, we'll say it in English.)

- Teacher : *On va pratiquer ensemble. Répétez après moi. 'Another' Stress sur la première syllabe.* (we are going to practice together, repeat after me. 'Another' stress on the first syllable)
- Teacher : *Travaillez en groupe et discutez ensemble la règle pour la prononciation du mot 'environnement'.* (Work in groups and discuss the pronunciation rule for the word 'environnement').
- Teacher : *Ce n'est pas correct. Essayez encore une fois, pourquoi le A est devenu E en prononciation ?* (That's not correct. Try again, why does the A become E in pronunciation?)

In the examples above, and many other examples from the transcripts, teacher three switches to French, first to reduce the stress of speaking English, second to encourage students to volunteer without the fear of misunderstanding or the intimidation due to the difficulty of speaking English, thus, making them feel comfortable in discussing tasks and engaging with other classmates. These teaching practices show how code-switching can be an effective tool to foster an inclusive and participatory classroom environment, especially when teaching a foreign language.

3. Clarifying complex concepts and emphasising knowledge through code-switching

Teacher three, similarly to teacher one discourse, depends heavily on code-switching to clarify and explain words and/or concepts that seem difficult for students to comprehend, as well as to emphasise ideas and to reinforce key points or important information. In many cases, teacher three resorts to French to ensure that her students understand the concept or the expression she is referring to. In addition, she uses this strategy to help students draw connections between their presumed existing knowledge (in French) and the new knowledge they are learning in English. This strategy, consequently, would help students not only to memorise vocabulary but also in building new knowledge about the target language. Moreover, repeating instructions, rules, questions, requests and even words in both languages has also an important role in emphasising the learning process, in checking the students' comprehension and in boosting the retention and recall of information. For instance:

- Teacher : Medical ethics, *c'est l'éthique médicale, éthiques médicales, okay !*
- Teacher : Unfortunately, pediatricians don't have it. *Les pédiatres ne l'ont pas !*
- Teacher : Do you have any questions or comments? Yes? *Des questions ou des commentaires ?*

- Teacher : C'était quoi le titre de la dernière séance ? Careers, yes! It was about Careers and specialties. *carrières et spécialités* ! right ? *oui* !
- Teacher: I don't take the stairs, *je prend pas les escaliers!*
- Teacher: When I say you play football; it means it is a habit. But you are playing football means? *Il y a un match de foot et t'es en train de jouer maintenant.* You are playing right now in the actual time.
- Teacher : There are two possibilities ! Well, the common one *ou bien la forme connue par... on peut dire pratiquement tous les accents en Anglais*, in almost all English accent the word is pronounced gynaecologist.
- Try to follow please! If you don't understand something you can ask! *Vous pouvez poser des questions. D'accord ? Okay?*
- Teacher: Specialty when we talk about a branch in medicine. *Une spécialité une branche en médecine.* but speciality is a broader term, *c'est un terme général.*
- Teacher: *Alors, on a vu ensemble les règles du pluriel. Les suffixes de spécialités, yes ?* so we have seen together the plural forms and suffixes to form specialties in medical fields, right? Do you have any questions? Everything is clear? *Jusqu'à ici est ce que vous avez des questions ? Des questions ? c'est clair ?*
Students : yes !

4. Code-switching to clarify and emphasise grammar, phonetic and pronunciation

Teacher three uses code-switching to clarify and emphasise the spelling and the pronunciation of English words by comparing these words to the equivalents in French. For instance, medicine in English and *médecine* in French when she said "*Le mot médecine en Français c'est avec e mais en Anglais c'est avec un i, with a slight difference in pronunciation*". Or in words like aspirin, dentist, biologist where the teacher insists on showing the difference in spelling saying "*la plupart des mots qui se terminent avec (e) en français par exemple aspirine, in English we drop the (e) and we write aspirin without (e)*". Another example of pronunciation and spelling is the word hospital when she said "*Dans 'hospital' l'accent Tonique est sur la première syllabe. Hospital, première syllabe, toujours ! et le h ici n'est pas silencieux, it is pronounced not like french hôpital*" (in hospital, the stress is on the first syllable, hospital, always first syllable ! and the H here is not silent like in french) or "*Le H dans 'hour' est silencieux. Pas de son ! On ne prononce jamais le H dans 'hour'*" (The H in 'hour' is silent. No sound. We never pronounce the H in 'hour'). Code-switching is employed, in this case, to draw

the learners' attention to differences in pronunciation and spelling between English and French, to make them aware of these language patterns.

Teacher three, likewise, depends on English/French code-switching to explain grammatical rules and structures; for instance, word formation, suffixes and prefixes, plural forms, tenses and many other aspects of the target language. She resorts to French, in these situations, to highlight similarities and differences between English and French structures or to draw on certain rules and implications in French language that may facilitate the comprehension of its counterpart in English. Here are some of the mentioned examples in her transcripts:

- Teacher: what is the plural form of otitis? Yes? In French we say?

Student: *otite, normalement on rajoute s au pluriel.*

Teacher: yes, thank you, *en français on dit otite, otites*, a regular form, but in English it has a specific plural form because the word refers to? Inflammation! Yes! What did we say about the plural form of inflammations? *Alors, on a dit que le suffixe (itis) c'est l'indication des maladies inflammatoires*, so we say *otite*, otitis, in plural form otitides. Right !

- Teacher : *les spécialités médicales, ici on a la même racine*, the same root word which is latin or Greek, *mais le suffixe est un peu différent*. But the structure and the suffixes differ slightly from English to French! *Par exemple les noms de spécialités qui se terminent avec logue* in English becomes *logist, cardiologue, cardiologist, radiologue, radiologist*.

- Teacher : *le nom pharmacien c'est une exception de forme en Anglais*. It is the only word that changes the form from English to French in this category. *On dit pharmacien, pharmacist. On a gériatre, geriatrician, pédiatre, pediatrician, psychiatre ?*

Students : *psychiatrician*

Teacher : wrong, we say *psychiatre, psychiatrist donc le atre devient ian or ist ! right !*

- Teacher : *on a une catégorie qui reste la même ! laquelle ?*

Student : *comme dentiste*

Teacher : très bien ! so we have names of specialties that remain the same, of course, *en français avec un e à la fin. Dentiste, Dentist, Optométriste, Optometrist, Anesthésiste, Anesthetist.*

5. Code-switching as a strategy to fill in lexical gaps

Teacher and students, both switch the code when they lack the lexical item or forget how to say it in either of the two languages, yet this strategy of filling gaps was highly frequent in students' rather than the teacher's discourse. The latter demonstrates very few instances of code-switching to fill in missing words or expressions while the former, and due to the lack of competence and limited vocabulary in English, depends heavily on French, and sometimes Arabic and Algerian Arabic, to fill in the missing word or expression. Therefore, teacher three, was witnessed using this strategy in a one-way direction, i.e., she depends, in most of the cases, on English, while students use it in both directions to compensate for the lack of vocabulary whether in English or in French. Accordingly, code-switching is employed in this case to provide accessibility to the missing words or items in both languages and thus to convey full meaning by preventing communication breakdowns. Therefore, this strategy is used, purposefully, to promote students' participation and engagement in the lesson, through bridging their familiar knowledge to the new knowledge of the target language, henceforth, building a strong linguistic competence and enhancing a deeper comprehension of medical English. For instance:

- Teacher: Imene what's wrong ? qu'est-ce que ta ?
Student: I'm sorry miss, I'm sick I have, *j'ai des céphalées*, I can't open my eyes!
Teacher: you are suffering from headaches! Do you need help or you want to leave?
Student: yes miss!
- Student: miss how do we say *la chair de poule* in English?
Teacher: *alors*, there are many possibilities, *on peut dire* Goose bump which is very common in US accent or goose pimple, goose pimple is less common, okay! UK expression or tout simplement chicken skin.
- Student: in the prescription, *la notice* we have *la posologie* and how many time we take médicament !
Teacher: yes, thank you, so in the prescription of the leaflet we have the types of medicaments or medicine that you should take, the dosage of each and the appropriate way to take them.

6. Highlighting language parallels through English/French code-switching

Probably, one of the most important functions, frequently used by teacher three, in the EMP course was to draw attention to similarities and differences between English and French at different levels. For instance, the differences and similarities in grammatical rules, in pronunciation and phonetics, in lexical vocabulary and even in word, phrase and sentence forms and formation. Teacher three used this strategy to promote the students' awareness of both languages and to create a sort of comparative learning approach, based on which, students would develop a deeper understanding of English and French and would pay attention to the nuances between the two languages. Examples:

- Teacher: le mot *spécialité* refers to two terms in English, we say specialty or speciality. Specialty *c'est l'accent américain*, speciality *c'est British*. In the domain of medicine, the common word *c'est specialty*.
- Teacher : *En français on utilise la structure être en train de plus l'infinitif, par exemple, je suis en train de manger, I'm eating*, to express an ongoing or progressive action. In English it is the present continuous tense but there is no such a tense in French. Okay!
- Teacher: we say tooth caries, *la carie dentaire* but the common word is tooth decay. *Alors, en anglais on a deux termes qui correspondent à la carie dentaire, mais le plus fréquent is not caries as in french, but decay.*
- Teacher : *Les mots qui se terminent avec (ie) en français, la terminaison est souvent en (y) en Anglais, par exemple psychologie, psychology, démocratie, democracy.*
- Teacher : the present perfect *c'est l'équivalent du passé composé*, there is no present perfect in French, *mais quand on parle du sens, ce n'est pas la même chose ! la forme du passé composé est identique au present perfect but the meaning is not always the same ! le passé composé est généralement une action du passé qui n'a aucun lien avec le present !*
- Teacher : *Les mots qui se terminent, généralement par un (e) à la fin comme biologiste, dentiste*, we have to drop the (e) in English, dentist and biologist without (e). *bien sûr il y a d'autres formes ou on doit garder le (e) à la fin avec une différente prononciation en Anglais et il y a des exceptions aussi !*
- Teacher : *Les conjonctions de coordination c'est comme en français, en français on a l'expression ou et donc or ni car (ou et donc ornicar)*, in English we have the expression FANBOYS which stands for (for and nor but or yet so)

- Student : *bonjour madame, est ce que je peux assister au cours ?*

Teacher : yes. Could you repeat your request in English, please?

Student: Good morning miss, can I assist the?

Teacher: In English we say, attend can I attend the session! *Assister en Français* and assist in English do not have the same meaning.

Teacher three uses English/French code-switching to explain and clarify the language equivalents, so as to draw the students' attention to new or unknown words for them, or to raise their awareness of the differences in forms or in meaning between the different language components. This strategy helps students to better memorise words in both languages, as well as, to pay attention to confusions or misunderstandings that may occur. Some words or grammatical patterns may carry slight differences between English and French, this is why, teacher three explicitly discusses and unveils such nuances to prevent students from falling into confusion or from deducing incorrect words or rules due to the negative transfer between the two languages.

4.4.2.2.2 Non-pedagogical Functions of Code-switching in Teacher Three Discourse

The transcripts revealed that a considerable amount of code-switching in teacher three discourse serves non-pedagogical functions. The latter, like building connections with students, managing informal discussions and interactions, expressing emotions, using humor and jokes or demonstrating social and cultural solidarity, exceed teaching and learning to serve either social, communicative or contextual purposes in the classroom. A detailed discussion of each of the non-pedagogical functions, used by teacher three in her sessions, with a concrete illustration and a brief justification will be presented in the coming points.

1. Highlighting and emphasizing cultural identity and cultural understanding through Code-switching

Showing the cultural identity of the teacher, emphasizing that of her students, discussing cultural topics or comparing different cultural contexts, all of which, forms one of the largest categories of code-switching in a non-pedagogical context. In this category, not only English and French were alternated but also Arabic and Algerian Arabic. The latter, though very limited, were present in some of the instances mainly to manifest the Arabic Muslim identity (Look at the examples in next page).

- Teacher: *bonjour, comment allez-vous ? cava ?*
Student : *bonjour madame, cava et vous !*
- Teacher: *El-Salam Alaikom*¹⁷how are you doing?
Student1: *Salam madame!*
Student3: *wa Alaikom Salam madame!*
Students: *bonjour madame!*

In the examples above, teacher three, in the first session, greeted her students by saying *bonjour*, a greeting expression which is common among medical students in the faculty of medicine and among Algerians in larger contexts, like in administration, in office, in work, etc. However, in the third session, the teacher used ‘*El-Salam Alaikom*’, as a cultural and a religious way to say good morning to students. The latter, in this case, responded differently. One student used the same cultural religious response ‘*Wa alaikom Salam madame*’. Another student replied by saying ‘*Salam madame*’ a shorter expression of greeting, whereas a number of students preferred to greet her by saying ‘*bonjour madame*’. teacher three prefers the diversity of style in greeting her students as a strategy to create a friendly inclusive environment and a way to strengthen the relationship with her students. In the meanwhile, she grants her students the freedom to respond in the way they prefer, providing them with different possibilities and making them feel comfortable when engaging in informal interactions.

In other instances, teacher three used code-switching to highlight the different cultural traits that may exist between a number of cultures, for instance, the Algerian culture compared to the French and the American ones. The purpose of code-switching here is to speak about cultural matters and to draw the students’ attention to the differences as well as to raise their awareness about other cultures. For instance;

- Teacher: it costs me an arm and a leg, *en français on dit ça m’a couté les yeux de la tête et on a Arabe on dit ça m’a couté bagra w bent’ha*¹⁸
- Teacher: why do we say an arm and a leg, *mais en français on fait reference aux yeux?*

¹⁷ ‘El Salam Alaikom’ (السلام عليكم) is an Arabic religious and cultural greeting which means ‘Peace be upon you’ a respectful and a cherished way of greeting among muslim and arab communities. In Algerian Arabic, we say ‘Salamu ‘likum’ the same expression with the same meaning but the pronunciation is a bit different from the first one (السلام عليكم).

¹⁸ ‘Bagra w bent’ha’ (بقرة و بنتها) a common cultural expression which translates as ‘a cow and (her daughter) it’s calf’ and means that something is very expensive or that it costs someone a lot of money to buy or to do something.

Student: *je connais l'expression en arabe, bagra w bent'ha c'est les payasans !*

Teacher : exactly ! thank you. *Chez nous lbagra elle a une grande valeur parce que l'algerien avant c'était un فلاح (fellaḥ), je me rappelle mon grand-père Allah yerahmou¹⁹ disait tmoutli lemra w matmoutlich lbagra. Pour les français c'est les yeux, par contre les americains c'est les membres, an arm and a leg, the limbs, parce qu'ils n'ont pas la sécurité sociale... !*

- Teacher : *pourquoi on dit appendicite, appendicitis mais on ne dit pas /apõdisit/ (/apõ.disit/ the correct French phonetic transcription) ? yes ? Pourquoi on dit appendicite et pas appondicite /apõdisit/? because it's a big word. It's a big word. C'est un gros mot. I always tell my students /apõdisit/ in Arabic kofriya²⁰. An offensive word! On dit pas l'appendicite, pourtant le mot contient un E N et on dit appendicite. Il faut faire attention ! il ne faut jamais prononcer le mot appendicite avec un o. j'espère que c'est clair !*

2. Code-switching in humor and jokes or in expressing emotions

Teacher three is also a fan of code-switching, especially when dealing with humorous or funny contexts or when expressing emotions and discussing interpersonal topics with students. Through this strategy, teacher three, attempts to create an approachable and a more relaxing atmosphere, making students at ease and less stressed to learn English through a humorous and a friendly context. For instance;

- Student: sorry miss, I'm late!

Teacher: where have you been? *Il est moins quart !*

Student: I was waiting for you! *j'étais devant les escaliers!*

Teacher: *ah moi je prends pas les escaliers ! je suis très fainéante je viens toujours de l'autre côté ! yes ! common in !*

- Teacher : what's wrong ? you are tired! *Vous êtes fatigués ! Vous voulez dormir ?*

Students : No ! (laughing)

Teacher : *moi aussi je suis hyper fatiguée ! allez on va dormir ensemble !*

Hey! wake up! it's just a dream! *Dormez chez vous pas ici en classe !*

¹⁹ 'Allah yarahmou' (الله يرحمه) an Algerian Arabic expression which means 'May Allah have mercy on him'. This expression is used as a religious and a cultural prayer for a Muslim person who passed away, equivalently to the meaning of rest in peace used by Americans for example.

²⁰ 'Kofria' (كفريه) an algerian arabic word which means an offensive or a swear word used mainly by people of sétif and the east to refer to a disrespectful or a rude way in talking through insulting.

- Teacher: you are not here, hello! *Je vous donne un peu d'énergie ! vous allez dire oh vous êtes déjà vieille gardez votre énergie vos en auriez besoin !* wrong dear students ! I'm old but I can dance I can move ! *on dit ancien mais toujours vaillant !*
Students: (laughing)
Student 1: you are young miss!
- Teacher: *moi je n'aime pas le mot Alzheimer's c'est un mot d'origine allemand on doit respecter la prononciation, alors on dit Alzheimer comme les allemands pas comme les français alzheimer alzheimer* (teacher is mocking the french prononciation of the word alzheimer).
- Teacher : *islam ! cette fois ci tu sors une fois pour toute, tu ne reviendras jamais à mon cours ! c'est le dernier avertissement !* okay !
Student : *je m'excuse madame !*
- Teacher : *moi je suis contre le photocopié en classe ! you don't need handouts ! you don't have to take the information by heart. Vous n'êtes pas censés apprendre par cœur !*
Student : for exams !
Teacher: *l'examen est basé sur l'intellect et non pas la mémoire !*

Teacher three has been witnessed to switch the code from English to, mainly French, to express personal anecdotes or self-deprecating humor, or to share her personal likes and dislikes with students. Her aim is to create a less formal and a less serious environment for learning, by relating to students, sharing and expressing ideas and comments and thus lightening their mood, building their confidence and, most importantly, promoting their participation in an enjoyable and a friendly learning classroom. It was also noticed that teacher three resorts to code-switching to make certain phrases sound less direct or less harsh and vice versa, especially in situations of sensitivity or confrontation with students. For example, when addressing the misbehavior of one of the students and threatening him to be expelled from the course, the teacher switches to French. Therefore, this strategy is used to maintain politeness and manage the tone of the conversation, for instance the two last examples above.

3. Showing social solidarity and professional belonging through code-switching

One key function of English/French code-switching in Teacher three discourse is the use of this strategy to foster solidarity with students and demonstrate both social and professional belonging within their medical field of study and the teaching staff of the faculty. On numerous occasions, as teacher one, she switches to French to express gratitude and

admiration to subject-specialists in the medical domain, or show her familiarity with certain professionals in the field. This practice seems to reinforce the teacher's relationship with her students. The latter would perceive her as an integral recognized member of the staff who has knowledge about the subject-specialty rather than an isolated teacher of English, in the faculty of medicine. A larger and a more important goal is to earn an equal respect to that granted to subject experts, enhancing both the teacher's status and the value of teaching English for medical purposes. By fostering these connections and shrinking professional barriers, teacher three would encourage an open and an engaging communication between the classroom members, and would promote a comprehensive and a collaborative atmosphere. For instance:

- Teacher : *je suis un big fan de monsieur Sibous !*
 Students: *aah* (showing admiration and approval)
 Teacher : *j'ai eu de la chance d'avoir assister à ses cours. He is an exceptional teacher and professor !*
- Teacher : *en 2011, j'ai assisté au cours, il m'a dit madame il faut enseigner la chimie avec la craie, c'est Sibous le génie ! il m'a dit quand il sagit d'aborder les notions en chimie il faut utiliser la craie ! et j'étais bouche bée parce qu'il m'a époustouflée ! he is a great man !*
 Student : *grand respect a Pr Sibous !*
- Teacher : *peut-être que c'est le meilleur enseignant que j'ai jamais vu ! a great teacher. Lui et monsieur Mahddadi de l'anatomie !*
 Students : *Hamadouche !*
 Teacher : *ah oui monsieur hamadouche aussi mais je préfère mahddadi.en tous cas vous avez de très bon enseignants ici ! really great teachers !*
- Teacher : *en deuxième année vous avez normalement biochimie, chimie analytique physiopathologie. Je connais un peu le programme mon fils a fait le même parcours que vous ! maintenant il est docteur en pharmacie.*
 Students : *Allah Ybarek, la 'akouba lina²¹ Insha 'Allah!*
- Teacher: *quel est votre module préféré ?* I know some of the modules
 Student1: *biophysique*

²¹ In Algerian Arabic 'la'akouba lina' (لعقوبة لينا) or in Modern Standard Arabic (MSA) (العاقبة لنا) is a common expression which means 'May it be our turn next' used to convey meaning of good wishes or to express hope that the speaker hopefully will soon enjoy a similar happy moment.

Student 2: *physiopathe*

Student 3: *botanique*

Teacher: all the modules then, great! *On va se baser sur quelques modules pour le contenu du cours*, you will have a medical course based on a pure medical content.

Okay !

The second part of the discourse analysis revealed a number of common points between teacher three and teacher one. The former, similarly to the latter, appears to be a prominent advocate and a frequent user of code-switching in the teaching of English for medical purposes. Likewise, both teachers employ this strategy to serve pedagogical and non-pedagogical functions. However, in the second analysis, teacher three reflects a more balanced way in teaching the content and managing the interpersonal dynamics through code-switching. While teacher one depends heavily on this tool in achieving the pedagogical intents, teacher three uses code-switching strategically and intentionally to enhance communication and improve the learners' engagement in the classroom. Moreover, teacher one shows a relevant and a systematic decrease of code-switching with the progress of the course and the development of students' competences, whereas teacher three displays a fluctuated use depending largely on the course's content and objectives.

4.4.2.3 Functions of Code-switching in Teacher Two discourse

The third part of the discourse analysis, though does not reflect a large amount of code-switching or a large category of functions, it describes how teaching intentions and methods differ widely from one teacher to another. Teacher two, is a significantly important participant in this enquiry who supports the teaching of EMP via English/French code-switching. However, the use of the latter was very limited in his classroom. one of the reasons that depicts a limited use of code-switching is the fact that teacher two admitted to have modest skills in French, in addition to the lack of experience in teaching English to medical learners and the challenging medical content in English. These facts made teacher two reluctant in using this strategy in his classroom. Furthermore, teacher two believed that students at this level (2nd year pharmacy students) show multiple weaknesses in English skills and, logically speaking, are unable to grasp meaning about medical content in English. This is why the focus of the teacher, according to him, is how to provide students with the essential skills and how to help them build a strong basis in the target language. the shift in objectives made teacher two concentrate more on the

teaching of general English and grammar rather than teaching English via a content-based strategy²².

In teacher two discourse, only the two first sessions were transcribed and interpreted, since the percentage of English/French code-switching was slightly higher than in the remaining sessions. Though a monolingual style of teaching is dominant in the classroom discourse and the use of code-switching is restricted by the teacher, providing more space and time to monolingual practices, students manifested a number of CS instances. In different occasions, they alternated between English and French or English, French and Arabic to fulfill pedagogical and mostly non-pedagogical objectives. Teacher two, in this case, was somehow condemned to reply on students' code-switching to satisfy the students' needs and preferences. Thus, he engaged with his students, using an alternating way of talk, where in some instances he resorted to French, while in others he depended on the mother tongue (Algerian Arabic) or the L1 (Arabic).

Almost all code-switching instances that occurred in the two sessions were a student-initiated code-switching, however few cases were teacher-initiated. Students resort to code-switching, mainly for non-pedagogical reasons, for instance; greeting teacher and classmates, saying goodbyes, informal requests about attendance or leaving, about the date or the content of exams, administrative matters or even in informal interactions. Accordingly, teacher two witnessed replying to students code-switching by the same manner. When he was greeted by his student who said "*bonjour monsieur, je peux entrer?*" (good morning Sir, can I enter the classroom?) in French, he replied instantly in the same way saying; "*bonjour, oui bien sur!*" (good morning, yes of course!), or when a student asked if she can have a second handout for her absent classmate saying "*Monsieur, je peux prendre une autre copie pour mon amie, she is absent!*". Teacher replied by saying "*oui bien sur!*" then he switches to Algerian Arabic saying that he is going to leave the copies on the desk "*نخليهم هنا*" (nkhalihom hna) then continues the sentence in English "you can take copies for your friends".

²² Content-based strategy or what we call content-based instruction (CBI) focuses on teaching language through based on a specific content such as medicine. Using this strategy, in medical English, would help medical learners develop, not only language skills but also a comprehension about and an engagement with medical topics and concepts. This strategy would make learning relevant and meaningful for medical students.

Teacher two manifested a number of code-switching functions in his classroom, not as an instructional strategy but rather to talk about personal matters, for instance his teaching experience and his travels and friends, or when he opens brackets to tell students stories, anecdotes or funny comments. In these situations, teacher two was witnessed using, mostly Algerian Arabic and less frequently Arabic rather than French. Moreover, informal discussions about Algerian education, culture and Algerian policies and system in higher education were also instances of English/Arabic code-switching occurrence.

In EMP teaching, code-switching was not employed as a strategy to teach medical terminology or vocabulary comprehension or any other aspect of the target language, due to the fact that the content presented was not really based on medical content, but more general and diverse. It was also noticed that, because of the nonmatching content to their field of study, pharmacy students showed a clear demotivation and a low enthusiasm to learn English. Therefore, the rate of students' participation and engagement was significantly limited, showing an obvious disinterest in teacher two course. Since the latter turned out to be a general English course rather than an English for medical purposes course.

4.4.3 English/French Code-switching in EMP Course: Objectives and Implications

The last part of the analysis and probably the most important part, depicts a direct relation between the discourse analysis and the last hypothesis drawn in this research. One of the concerns of the latter is to shed light on the impact of English/French code-switching on the vocabulary comprehension and the learning of medical terminology of pharmacy students. This hypothesis, therefore, is going to be explored in this part, through a detailed analysis and interpretation of both teacher one and teacher three discourses in relation to the teaching of English for medical purposes, in general, and the teaching of medical terminology and vocabulary comprehension in particular.

1. Creating and fostering a bilingual learning environment

One of the clear intentions of both teachers, one and three, in teaching English through English/French code-switching, is to create an adapted bilingual learning atmosphere similar to that of the other subjects in medical studies, where the medium of instruction is French and the medium of communication between teachers and students is highlighted by code-switching

between French and Arabic. By integrating the former in the English classroom, teachers attempt to maintain a habitual learning climate where students are used to refer to French, mainly when dealing with medical topics. This strategy therefore, may not only encourage students' participation and interest in the classroom, but it may also enhance their proficiency in English and assert and reinforce their abilities in French. This comparative learning approach would encourage students to use their knowledge of one language to learn and better understand the other.

2. Building confidence and encouraging participation in medical contexts

Through English/French code-switching, teachers, one and three, attempt to create a learning approach that can be more accessible and less intimidating and less challenging for medical students. Hence, the latter would be more comfortable to learn English through code-switching rather than a monolingual approach. For instance, in situations where learners encounter new and complex English medical terms, teachers, by switching back to French, may provide a sort of linguistic support or a language backup to make them feel at ease, by reinforcing their confidence in learning and applying medical English. Therefore, this strategy can be effective not only in boosting students' confidence but also in creating an inclusive learning environment where students can be actively and enjoyably engaged in.

There are many instances and examples that draw upon code-switching to enhance the students' participation and raise their confidence in learning EMP. For instance, switching to French when students are reluctant may reduce their anxiety and build their confidence in answering and sharing ideas. When students struggle with English terminology, switching to French would help them understand faster, boosting their confidence to answer. For instance, students when asked about the ENT specialist, did not answer because they had not assimilated the meaning, but when teacher switches to French saying that "*c'est l'ORL*", students replied enthusiastically "*ah d'accord!*" and could connect the meaning and the reference of each letter drawing on the French Language saying "*ENT comme ORL, donc c'est Ear, Nose and throat*". Furthermore, when learners are sceptical or unsure about something, both teachers first ask in French and follow up in English to build a step by step participation. For instance, when discussing "otitis" the teacher first asks: "*c'est une inflammation n'est-ce pas?*" Then proceeds in English: "what do we call it in English?".

The use of English/French code-switching in an EMP course may have positive impact on the students' learning habits in particular, and on the classroom participation in general.

Knowing that they can express themselves in both languages, and that they can resort to French when they need without the instructor's judgment or restriction, encourage students to build a strong enthusiasm and motivation to engage actively in the learning process. moving gradually from French to English allows students to build proficiency without fear or failure especially when learning a medical content. Moreover, reducing the load of learning difficult concepts and complicated definitions through code-switching, may ensure that students are not overwhelmed and can comfortably follow along with the course.

4.4.3.1 Functions of En/Fr CS in Teaching Specialised-Vocabulary and Medical Terminology

Though English/French code-switching is present as a discursive practice all along the EMP courses of both teachers and is manifested in almost every language aspect tackled in the course, a great deal of its implication is shown to have a direction relation with the teaching of specialised vocabulary and medical terminology. Teacher one and teacher three depend heavily on this strategy to make students learn and comprehend both skills. Therefore, multiple code-switching functions in relation to the teaching of vocabulary comprehension and medical terminology are drawn out of their transcripts.

Teachers, one and three, have been noticed to depend heavily on English/French code-switching in the teaching of specialized vocabulary and medical terminology. The former and the latter are challenging objectives in both; the teaching and the learning process alike. However, learners who are novice and are in the phase of building their knowledge and skills in the target language, find it extremely difficult to learn specialized vocabulary, related to their field of study, in English. This is why, both instructors, resort to French to introduce complex terms, explain medical concepts in simple ways, repeat and reinforce the learners' known vocabulary and build new specialized terms depending on their familiar knowledge. All of which is used systematically to help students, gradually, build confidence in learning and using medical register. Accordingly, these functions, along with others, are going to be discussed, one by one, with illustrations from the two teachers' transcripts, in table 4.41 below.

Table 4.41*Functions of En/Fr Code-switching in Specialized-vocabulary and Medical Terminology*

Function	Description	Illustration
Clarification of specialized vocabulary & medical terminology	Teacher ensures comprehension of medical terms by providing French equivalents & explanations	Gallbladder <i>c'est la vésicule biliaire</i> . Afebrile <i>quelqu'un qui a une température normale, qui n'a pas de fièvre</i> .
Bridging Gaps between English & French medical vocabulary	Teachers use CS to Link unfamiliar concepts to familiar language that students know.	Rhinitis <i>c'est le rhume</i> . Teacher: ENT specialist <i>c'est l'ORL, donc ?</i> student: <i>otorhinolaryngologie, oto ear, rhino nose!</i> Teacher: and throat.
Highlighting Phonetic & pronunciation similarities & differences in medical terms	highlighting phonetic and pronunciation differences may help students better retain and differentiate information.	Pancreas and <i>pancréas</i> <i>le s à la fin est prononcé même en français on dit pancréas</i> . <i>Hémorragie</i> we say hemorrhage <i>le H</i> is not silent.
Relating medical terms to common and casual language	Teachers uses CS to provide simple common and more casual expressions to complex and difficult medical terms	Breathlessness <i>ou bien dyspnée c'est le manque de souffle</i> . Jaundice <i>c'est plus courant de dire jaunisse mais c'est l'équivalent de l'ictère, right !</i>
Comparing similar words with different meaning (false friends) in English & French	Drawing attention to similar words carrying different meaning in En & Fr will prevent students from using the wrong vocabulary or the wrong context.	Phlegm and <i>Phlegme</i> . <i>Phlegme en français peut dire aussi une attitude calme</i> . We say <i>assister à un cours</i> , but assist a patient, okay! <i>Une notice is not a notice, we say a leaflet, okay!</i>
Explaining word formation across English & French	Using CS to build different categories of medical terminology, facilitates the students' retention of rules.	"-itis" for inflammations parallels "-ite" (French), <i>renite, renitis, otite, otitis</i> . -logue parallels logist in specialties, <i>radiologue, radiologist</i>
Providing feedback, correcting mistakes of pronunciation, spelling, meaning of medical terms through CS	Teachers use CS to correct mistakes and provide feedback to reinforce the students' learning.	Correcting pronunciation of words like "Pancreas" vs. "pancréas". <i>On dit une carie dentaire</i> but in English is caries, dental caries or tooth decay.

4.4.3.2 Impact of En/Fr CS on Vocabulary comprehension and Medical Terminology

English/French code-switching in EMP teaching, plays a significantly important role in improving vocabulary comprehension and enhancing the learning of medical terminology. Alternating between English and French in both teachers' courses has proven to be effective and helpful. While students may struggle to grasp the meaning of complex terms in the medical field, teachers relate to code-switching, making the learning of such competences easier through familiar language and familiar knowledge. Moreover, emphasizing language patterns across English and French, may help students better memorize and recall vocabulary items. For instance, drawing on suffixes of specialties in both languages or suffixes of inflammations make students remember the structure of the word and the rule to form such categories of terms. Furthermore, the fallback to French, the medium of instruction in medical studies, is a safe learning resort for students who have weak abilities and limited vocabulary in English.

English and French share a large number of similar words which have, practically, a common form and an identical meaning, due to their derivation from Latin and Greek. Therefore, code-switching between these languages would make the learning of the common vocabulary easier, where the instructor has to highlight the slight difference in pronunciation, spelling or word endings. For instance, recognizing the similarity between "infection" and "*infection*", recognizing the suffixes "-itis" as equivalent to "*-ite*" that indicate inflammations, "-logy" compared to "*-logie*" for specialties and "-logist" which parallels "*-logue*" to form words of specialists. Consequently, drawing on similar patterns of both languages, through code-switching, may result in a positive transfer in English language learning and thus reinforcing the learners' bilingual glossary and strengthens their command of specialised vocabulary and medical terminology.

While English/French code-switching has proven its positive effect on vocabulary comprehension and the learning of medical terminology within second year pharmacy students. Both teachers' discourses reveal a challenging task of learning EMP through code-switching. Between English and French there are also a number of false friends or words which share the same form but differ in meaning. Such a category may lead students to confusion or misunderstanding of certain words and expressions. For instance, words like; "*la notice*" which

means leaflet in English, or “drugs” which means “medicaments” in French, were applied inappropriately by students, thinking that they hold the same meaning in both languages.

4.5 Conclusion

The fourth chapter was interested in analysing, discussing and interpreting the data gathered from a number of research instruments, namely, observation, students’ questionnaire, teachers’ questionnaire, focus group discussion, teachers’ semi-structured interview and a thorough discourse analysis of ten sessions of EMP courses. Accordingly, results revealed that EMP teachers and pharmacy students show positive perceptions and positive attitudes towards the use of English/French code-switching as a valuable pedagogical strategy. The latter is regarded as an effective discursive practice that fosters the learning process in general, and enhances vocabulary comprehension and the learning of medical terminology in particular. From one hand, teachers depend on this tool to clarify difficult and complex concepts and to facilitate the learners’ vocabulary comprehension. From another hand, a significant number of students reflect a comfortable and a confident attitude when allowed to switch in the classroom. Results, similarly, unveiled that code-switching can promote the students’ participation by lowering their anxiety and intimidation of learning through a monolingual style of teaching and by fostering a positive learning environment, where they can actively engage and share their ideas. Likewise, code-switching has been witnessed to have non-pedagogical implications in the EMP course, notably, to foster social interactions and maintain communication between teachers and students, to emphasize cultural and social identity, to strengthen the teacher-students relationship and to depict a social and a professional belonging to the context of medical fields.

**GENERAL
CONCLUSION**

GENERAL CONCLUSION

Algeria is a multilingual society that affords the privilege to get into contact with multiple languages and language varieties in its diverse spheres. This linguistic feature is omnipresent in pedagogical contexts, notably, in medical education. Within the latter, multilingualism presents both opportunities and challenges for the educational staff. The dominance of French and its role as a medium of instruction in medical fields reflects historical influences, meanwhile, English is increasingly important for accessing the latest research and medical advancements. However, English proficiency varies significantly, since not all students or professionals have the necessary skills to benefit fully from English-language resources. As a matter of fact, an English for Medical Purposes (EMP) course integrates the curriculum of medical studies. Nevertheless, the challenges to teach an EMP course are not only related to the complexity of the content, the manifested weak skills of learners but it is also related to the language of instruction. Accordingly, code-switching between English and French in EMP instruction appears as a strategic practice to overcome challenges and obstacles of teaching this specialty through a monolingual-based instruction.

The ultimate purpose of this research revolved around the phenomenon of code-switching within EMP instruction. More precisely, the researcher aimed to shed light on the pedagogical and the non-pedagogical potential of this practice in an English for medical purposes course, with particular focus on its capability to enhance learners' vocabulary comprehension and their acquisition of medical terminology. Moreover, a particular focus on instructors' and medical students' perceptions and attitudes towards the integration of code-switching as a teaching and learning strategy in EMP was also highlighted in this investigation. The three components of this investigation; attitudes, functions and impact, sought to provide valuable insights and useful implications for the use of code-switching in promoting the teaching of EMP course within the different medical fields, at the university of Sétif 1. Accordingly, a set of implications for language policy and education, in addition to a number of challenges and considerations concerning this phenomenon, were eventually discussed in this inquiry.

This thesis provided, first, a theoretical chapter that revolved around reviewing the relevant literature concerning English for Medical Purposes (EMP) instruction. Accordingly, within the first theoretical chapter, a number of themes were pinpointed, starting by a general overview of EMP education where the definition and the scope of this particular course were

highlighted. Then, the researcher discussed the different characteristics of EMP teaching, with a particular emphasis on specialized vocabulary and medical terminology. She also reviewed the related literature to pinpoint the communicative competencies required in medical context. Moreover, a special focus on the EMP instruction in EFL context, notably in Algeria, was also mentioned. Additionally, unveiling and reviewing the different pedagogical approaches in EMP instruction was crucial, hence, content-based instruction (CBI), task-based language teaching (TBLT) and problem-based learning (BPL) were discussed thoroughly in this chapter. Last but not least, challenges in EMP teaching, with a particular relation to the EFL context, were briefly mentioned.

This dissertation continues to develop its theoretical foundation with a second chapter dedicated to the literature surrounding the phenomenon of code-switching. The second theoretical part, began with a detailed analysis of code-switching, focusing particularly on its definition, types and theoretical frameworks that set the first steps and the basic foundation for code-switching investigations. Subsequently, the researcher tackled the different approaches to code-switching from the point of view of linguistic, sociolinguistic, conversational and pedagogical domains. Meanwhile, the researcher, through the previously discussed approaches, drove the interest to the different functions and the multiple functional roles of code-switching in different contexts, to finally highlight its purposes in the pedagogical settings. Eventually, the researcher discussed its impact on language learning and teaching. Based on this literature review she traced the theoretical line of her inquiry, through a rationale on the theoretical framework and the model adapted in this study.

Continuing the research, a third chapter was established to explain the methodological ground that underlies this study. The latter, based on a case study design taken from the department of pharmacy at the university of Sétif 1, adapted a mixed-methods approach to investigate the phenomenon of code-switching within EMP instruction. Accordingly, and to answer the research questions and to confirm (or reject) the hypotheses raised earlier, the researcher depended on quantitative and qualitative data collection tools, namely, classroom observation, teachers' questionnaire, students' questionnaire, teachers' semi-structured interview, focus group discussion and eventually discourse analysis of a collected corpus from EMP context. All of these tools were employed for specific purposes to collect the necessary quantitative and qualitative data that would pave the way for the data analysis phase to take place. Furthermore, a sequential approach was adopted highlighting three different successive phases. The first exploration phase was devoted to shed light on the problematic issue and to

gain preliminary insights, through initial observation and focus group discussion, that would shape the scope and objectives of raise this inquiry. The second quantitative and qualitative phase attempted to reveal the attitudes of both EMP teachers and pharmacy students towards English/French code-switching. Consequently, attitudes were examined via questionnaires, interview and a focus group discussion. Subsequently, the third phase concerned the analysis of ten EMP sessions, with particular focus on the teachers' discourse, unveiling the functions and roles of code-switching in the classroom. Based on this, the researcher opted for a triangulation to cross check and validate the findings to, finally, ensure the reliability and validity criteria.

The data analysis phase, which was based on a triangulation process through cross-checking and validating the triggered data via a number of quantitative and qualitative tools, revealed significantly important conclusions. The latter appeared to validate and confirm the four hypotheses raised alongside the four research questions in the introductory part of this study.

Concerning the first hypothesis, triangulation of multiple tools provides strong evidence that integrating English/French code-switching positively affects the teaching and learning process in EMP courses. Classroom observations showed that teachers utilized code-switching to facilitate comprehension, especially for challenging medical content, equally manifest that students are more engaged and willing to participate when code-switching is used to clarify lessons. Student questionnaires also revealed a clear preference for code-switching, with the majority expressing that it made learning more accessible and manageable, while teacher questionnaires highlighted the practical role of code-switching in simplifying content and maintaining student engagement, as most students feel that code-switching helps them better understand the content, and doesn't overwhelm their learning, especially since French has been their medium of instruction in pharmacy studies. Focus group discussions and teacher interviews provided qualitative support, demonstrating that code-switching bridged linguistic gaps, promoted comfort in using English, and mitigated comprehension challenges by linking concepts to familiar French equivalents. Finally, discourse analysis corroborated these findings by revealing the functional roles of code-switching, such as clarifying terminology and fostering an inclusive learning. Overall, the cross-checking and validation of these instruments collectively support the hypothesis that English/French code-switching has a positive effect on the EMP course, enhancing comprehension, student participation, and reducing anxiety related to English language limitations.

The second Hypothesis concerns the attitudes of EMP teachers towards the use of code-switching in EMP instruction. Teachers generally have a positive view of using both English and French in EMP classes. They regard code-switching as a useful tool and a bridge to overcome language barriers and facilitate comprehension, especially for specialized medical content. Evidence from different sources such as, classroom observation, teachers' questionnaire, teachers' semi-structured interview, and focus group discussion, shows that teachers use code-switching not only to explain difficult medical terms but also to keep students engaged. The discourse analysis reveals that teachers often switch to French when students look confused, making lessons easier to follow. It also illustrates instances where instructors use code-switching to bridge linguistic gaps, often switching to French to define or elaborate on complex terms. This shows teachers' intentional use of code-switching as a means to facilitate understanding. Observations back this up, showing that students respond more positively and participate more when teachers use French to clarify points. In interviews, teachers express that code-switching is an effective strategy that allows to reach students who struggle with English-only explanations, especially in a challenging subject like medical content. Questionnaire responses align with this, as teachers rate code-switching as helpful for explaining detailed content and ensuring all students can keep up. Likewise, focus group discussion revealed that pharmacy students feel more comfortable when teachers use both languages as a backup strategy to support their learning. Together, these findings confirm the second hypothesis that teachers see code-switching as an effective strategy to help students understand difficult material, meet diverse language needs, and create a welcoming classroom environment.

As far as pharmacy students' attitudes are concerned, they generally have a positive attitude toward using both English and French in EMP classes, as it makes understanding complex medical content easier and helps them feel more confident. Data from observation, students' questionnaire, focus group discussion, and discourse analysis all support this. The discourse analysis shows that when teachers switch to French, students feel more at ease with challenging topics, especially medical terminology. Observations reveal that students are more engaged and participate more actively when they can rely on French for parts of the lesson. Similarly, questionnaire responses further confirm this, with most students saying that code-switching reduces the mental effort needed to understand complex terms. Therefore, code-switching helps them focus better. In focus group discussion, students explain that using both languages makes learning less intimidating, boosting their confidence and encouraging them to participate. Teachers in interviews also notice that students seem more motivated and less

anxious when they can resort to French in difficult learning situations. All these findings together confirm the third hypothesis that students view code-switching as a helpful approach, one that reduces stress, supports understanding, and fosters a positive and motivated attitude toward learning in EMP courses.

Research findings, in relation to the fourth hypothesis, revealed that switching between English and French, in EMP courses, fulfills several important roles, enhancing both the teaching process and the classroom atmosphere. Data from the employed tools show that code-switching is used to facilitate the comprehension of medical terminology and specialized-vocabulary, to give clear instructions, and to ensure that everyone is following along. While discourse analysis uncovers the pedagogical and non-pedagogical uses of code-switching, showing its multifaceted role in the classroom, the observation revealed that this strategy helps maintain order and keeps students engaged, as they feel more comfortable when asking questions or participating through both languages. In the meanwhile, Students report feeling comfortable and motivated when teachers switch between English and French to encourage engagement and ensure everyone understands the instructions. Results generated from the focus group discussion fall in the same line as the non-pedagogical benefits found in discourse analysis. Students' questionnaire show that learners find code-switching helpful for both understanding lessons and feeling more connected in class, while teachers, through the interview, note that switching between languages creates a friendly atmosphere, building trust and making students feel supported. Assembled, these findings confirm the hypothesis that code-switching serves multiple roles in the EMP classroom, supporting learning and fostering a comfortable and positive environment.

While the primary focus in this study was to highlight the English/French code-switching instances, and to address their functional roles within EMP courses, discourse analysis revealed a more complex use of code-switching were both teachers and students rely on a combination of three languages and a language variety, namely; English, French, Arabic and Algerian Arabic. These instances did not emerge as a consistent and a frequent practice, nevertheless, they play an important functional role in the EMP course. The use of Arabic and Algerian Arabic is typically related to cultural exchanges and identity emphasis. Teachers' discourse analysis revealed that Arabic is a fallback, when English and French, subsequently, fail to convey the intended meaning, particularly when the latter is related to the Algerian culture and the Algerian identity. Henceforth, teachers were witnessed using English/Arabic many times to connect medical knowledge to students' cultural backgrounds and reinforce key

terminology in a language that resonates more personally, for instance; moving from “the hoof to mouth” to “*la fièvre aphteuse*” to “*الحمى القلاعية*” to eventually “*أحمه ناع لبقر*”. This use of Arabic reinforces students' sense of identity, allowing them to connect their personal and cultural experiences to their medical studies, which deepens engagement and understanding. Additionally, teachers sometimes use Arabic to inject humor into lessons. This strategy is for point to ease tension and to build strong rapport with students. By using familiar expressions, cultural references, or jokes in Arabic and Algerian Arabi, teachers can create a light-hearted environment that makes challenging material more accessible and enjoyable. The use of humor through code-switching not only breaks down formal barriers but also fosters a sense of community, encouraging students to participate more freely. In these ways. Accordingly, English/Arabic code-switching in EMP courses goes beyond language support, reinforcing cultural identity, creating relevancy, and fostering a positive and engaging environment.

Concerning the last hypothesis, findings from different tools demonstrate that switching between English and French in EMP classrooms positively impacts students' comprehension and retention of specialized vocabulary and medical terminology. Insights from quantitative and qualitative data support this point. Teachers frequently code-switch to provide French equivalents for medical terms, allowing students to associate unfamiliar English vocabulary with known concepts. This approach helps students connect and retain terminology, as seen in discourse analysis. Additionally, classroom observation reveals that students are more responsive and demonstrate better understanding when teachers use French to bridge gaps in comprehension. Moreover, both quantitative and qualitative findings indicate that students view code-switching as particularly beneficial for mastering medical terminology, as it minimizes cognitive strain and allows them to focus on meaning rather than translation. Teachers, in interviews, emphasize that code-switching is crucial for building students' medical vocabulary by connecting difficult English terms with more accessible French counterparts. Likewise, pharmacy students, via the focus group discussion, emphasize the previous point, expressing that code-switching helps them remember and recall terms more effectively, especially when dealing with complex medical content. These findings collectively validate the hypothesis that code-switching enhances vocabulary acquisition in EMP courses, making specialized vocabulary and medical terminology more accessible and less challenging.

The alignment of discourse analysis with the other tools, demonstrates that the discourse findings are reliable and valid in reflecting on the research questions and hypotheses. Each research tool, employed in this study, reinforces the overall conclusions through providing a

well-rounded view of the role and impact of code-switching in the EMP classroom. The combined data confirm that code-switching enhances comprehension, reduces anxiety, supports vocabulary learning, and fosters a supportive environment, validating all hypotheses and providing comprehensive insights into the multifaceted benefits of this discursive practice in EMP courses.

The above-discussed findings reveal a number of implications that could be beneficial for both; curriculum designers and instructors. Both; the latter and the former should consider integrating structured code-switching as a deliberate instructional strategy to support comprehension in multilingual classrooms such as EMP course in different medical fields (medicine, dentistry, pharmacy and other related fields like biology) where terminology can be challenging. Educational policies may benefit from endorsing code-switching as a strategic practice that acknowledges and utilizes students' multilingual backgrounds, henceforth, creating a less intimidating and more engaging process of learning. Furthermore, teachers should be encouraged to employ flexible linguistic strategies, using code-switching not only to aid comprehension but also to enhance classroom management, build rapport, and support positive student-teacher interactions. Lastly, incorporating code-switching as a vocabulary-building strategy could significantly enhance retention of specialized vocabulary, making it a valuable approach in fields like EMP where complex vocabulary is foundational for professional development.

Accordingly, to enhance the effectiveness of EMP instruction, a number of suggestions could be implemented. First, providing teachers with professional development on effective code-switching techniques would enable them to use both English and French strategically, particularly when introducing complex medical terminology. Moreover, integrating code-switching directly into the EMP curriculum design can further ensure its systematic use as a supportive pedagogical tool. Additionally, developing and administering multilingual resources, such as bilingual glossaries, would provide students with structured language support, helping them connect new terms to familiar language. Furthermore, adopting a flexible language policy that formally recognizes the role of code-switching in challenging content areas could also create a more inclusive environment, allowing both teachers and students to navigate language barriers effectively. Finally, creating opportunities for students to give regular feedback on code-switching practices would allow instructors to adapt their language strategies to better meet students' learning needs, and thus, making EMP courses more responsive and tailored to a multilingual student population.

The present research findings, implications and suggestions pave the way to further extended investigations within the same line of inquiry. For instance, based on this study, a further empirical research could be significantly interesting to measure the impact of English/French code-switching on medical vocabulary acquisition adopting an experimental design. Similarly, future research on code-switching in EMP classrooms could explore several promising areas. First, a longitudinal study examining the long-term effects of code-switching on students' English proficiency and medical vocabulary retention would provide insights into how English/French code-switching impacts language skills over time. Second, comparative studies across different EMP contexts, such as private schools and private institutes of languages, could also reveal whether code-switching functions differently in other practically similar contexts but with different population (doctors, specialist, dentists, etc). Additionally, investigating the cognitive load associated with code-switching in multilingual settings, could clarify whether students could be mentally overwhelmed or code-switching alleviates the difficulty of learning complex terminology in a foreign language. Research focused on the impact of code-switching on specific language skills, like reading or speaking, could further refine our understanding of how switching languages affects each component of language learning.

Another valuable area for extended research in this field is to explore students' attitudes towards code-switching according to their English proficiency levels. The focal point here is to identify whether different language levels influence students' perspectives on its effectiveness. Respectively, studying non-pedagogical roles of code-switching, such as its impact on student-teacher rapport and classroom communication, could reveal additional social benefits of this approach. Moreover, one may attempt to examine the use of digital tools to support structured code-switching, such as bilingual glossaries or translation apps that could enhance vocabulary learning in a systematic way. Finally, studying how teacher training in code-switching techniques affects student outcomes would highlight whether specific preparation for multilingual instruction makes code-switching more effective and beneficial for student comprehension and engagement.

As far as the Algerian multilingual context is concerned, further inquiries could investigate code-switching within different ethnic groups in pedagogical settings, for instance; how Arab students regard code-switching between English and French compared to Berber students. Similarly, examining this phenomenon among different genders; male and female participants and how they perceive code-switching practices, could also be an interesting topic

of investigation. Last but not least, exploring the different combinations of code-switching and how the latter which generally occur between the mother tongue and the foreign language could differ from switching between two foreign languages, highlighting challenges and limitations of this complex practice on students' cognitive abilities and language performance.

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APPENDICES

APPENDIX -A-

Curriculum of 2nd Year Pharmacy Studies

ANNEXE

Liste des modules du cursus de 2^{ème} année de Docteur en Pharmacie

Module	Cours	Travaux dirigés	Travaux pratique	Total	Coeff	Nbre d'évaluation
Biophysique	50H	20H	20H	90H	2	2
Botanique pharmaceutique	50H		30H	80H	2	2
Chimie analytique fondamentale	50H	20H	20H	90H	2	2
Chimie minérale pharmaceutique	60H	10H	10H	80H	2	2
Génétique	60H	10H		70H	2	2
Biochimie structurale, métabolisme et moléculaire	60H	30H		90H	2	2
Physiopathologie	60H	20H		80H	2	2
Anglais		40H		40H	1	1
Total	390H	160H	80H	620H	15	15



MODULE DE LANGUES VIVANTES

Travaux dirigés : 40 heures

A -Amélioration de la langue d'enseignement et communication (20 heures)

- 1/ Terminologie
- 2/ Etymologie du mot
- 3/ Rédaction et phonétique
- 4/ Lexique des noms propres

B- Langue anglaise : enseignement de base (20 heures)



Translated Version of the Document

Living Languages Module (English Course)

Directed coursework: 40 hours

A - Improvement of English Language and Communication (20 hours)

1. Terminology
2. Etymology of the word
3. Writing and phonetics
4. Lexicon of proper names

B - English Language: Basic English Teaching (20 hours)

APPENDIX -B-

CLASSROOM OBSERVATION CHECKLIST

1. Descriptive Information

Observer: _____ Course/Teacher Name: _____

Date & Time: _____ Group Observed: _____

2. Rating Scale

Score	Description
1	Not at All
2	To a Slight Extent
3	To a Moderate Extent
4	To a Considerable Extent
5	To a Great Extent

1. Course Structure	1	2	3	4	5
Objectives clearly stated at the beginning of the course					
Course structure (introduction to conclusion) well-organized/well-presented					
Summarizing main points and directing students towards next course' preparation/tasks					
2. Course General Climate					
Students motivated and interested in the course					
The atmosphere dynamic and participative					
3. Course Content & Materials					
Course content well-organized/well-presented					
Tasks and assignments well-explained/clarified					
Illustrations/examples well-presented/clarified					
Materials well-designed and relevant to the course					
Use of instructional aids (audio-visual tools,..)					
4. Language of Instruction					
Teacher's language simple audible and clear					
Language alternation (from En to Fr) present in teacher's talk					
Language alternation (from En to Fr) effective/not distracting					
5. Teacher-Student Interaction					
Students encouraged to participate in different discussions					
Students granted the opportunity to talk/share their opinions/comments					
English talk is solicited/encouraged yet CS is accepted					
Teacher's talk dominates the course with little/no interaction					
6. Learning Difficulties					
Students are demotivated/not willing to learn English					
Students are unable to understand the content in English					
Students are passive receivers of information					
Students comprehension issues is due to their weaknesses in English					
Number of students:					
Number of interactions:					

COMMENTS / ADDITIONAL OBSERVATIONS

APPENDIX -C-

Online Placement Test



MM Online Placement Test
mmpublications.com

The **MM Publications Online Placement Test** is a free and accurate tool designed to assess your English proficiency and place you at the appropriate level, ranging from Beginner (pre-A1) to Advanced (C1).

Key Features:

Comprehensive Assessment: The test evaluates grammar, vocabulary, listening, reading, and communication skills.

Structure: It consists of three parts, each containing 50 questions. Each part must be completed within 40 minutes.

mmplacement.com

Language Options: Available in both British and American English.

Immediate Results: Upon completion, you will receive your placement results via email.



[student's area](#) [teacher's area](#) [about us](#)

digital

mm online placement test

HOME > MM ONLINE PLACEMENT TEST



MM Online Placement Test



 CEFR: Testing A1-C1

The **MM Online Placement Test** is a unique means of determining students' level of proficiency in the English language, and placing them at the appropriate level, from Beginner (pre-A1) to Advanced (C1). Apart from being reliable, straightforward, and easy to take, the **MM Online Placement Test** is a particularly effective tool for placing students, as it tests not only grammar and vocabulary, but also listening, reading, and communication skills.

key features

- The Online MM Placement Test consists of three parts which are available in British and American English.
- The test places students, depending on their scores, at a level ranging from Elementary (A1) to Advanced (C1).
- Students receive their placement results by email.

TAKE THE TEST 

APPENDIX -D-

STUDENTS' QUESTIONNAIRE

Dear Student,

Thank you for taking the time to participate in this questionnaire. Its purpose is to explore your attitudes toward the use of English/French code-switching as a pedagogical strategy in English for Medical Purposes (EMP) course and how it may affect your comprehension of the material. We appreciate your honest and thoughtful responses, which will remain strictly confidential and be used solely for research and improvement purposes.

Please note that your participation is entirely voluntary, and you may skip any question you do not feel comfortable answering. Your insights will help us refine our teaching methods and enhance the overall learning experience.

Instructions

Read the questions carefully and answer them completely. You can write your answers in English French or Arabic.

I. Background Information

1) What is your Gender?

Masculine

Feminine

2) What is your age?

18-22

22-25

over 25

3) What languages you are fluent in?

II. Schooling Information

4) How many years have you studied English (from Primary school to University)?

_____ Years

5) How many years have you studied French (from Primary school to University)?

_____ Years

6) In what language(s) have you been mostly taught in your schooling?

a. Arabic

c. Arabic and French

b. French

d. Other _____

7) What is your proficiency level in French? Choose those that apply

	Beginner	Intermediate	Advanced
a. Listening			
b. Speaking			
c. Reading			

IV. Approaches to Medical English Learning

13) In the EMP course, do you switch between languages when you talk?

a. Yes

b. No

If Yes, what languages do you use? _____

14) When do you switch from English to French?

a. When interacting with the teacher

b. When interacting with students

c. With both teachers and students

15) Why do you switch from English to French in the EMP course? (MCQ)

a. You are not fluent in English

b. You are not confident (you are shy to talk in English)

c. To avoid doing mistakes in English

d. To compensate for English language limitations (e.g. lack of English vocabulary)

e. To emphasize your ideas

f. To cope with teachers and classmates who use French

g. You are habituated since French is the medium of instruction in your specialty

Other (please specify):

V. Approaches to Medical English Teaching

16) How often does your English teacher use English/French code-switching?

a. Always b. Often c. Sometimes d. Occasionally e. Never

17) In your opinion, why do teachers switch to French in the EMP course? (MCQ)

a. To better explain and clarify the subject matter

b. To save time by providing parallel vocabulary in French

c. To show that he masters French and can use it properly

- d. When he lacks the right vocabulary in English
 - e. To attract the attention of students
 - f. To check students' comprehension
 - g. Other. (Please specify)
-

18) In which language would you prefer to study EMP course?

- a. English Only
- b. English/French
- c. Other: _____

VI. Students' Attitudes about the Use of English/ French CS in the EMP course

Please read each of the following statements very carefully and circle the answer which best describes your degree of agreement or disagreement.

(1) Strongly disagree, (2) Disagree, (3) Not sure, (4) Agree, (5) Strongly agree

Item Description	SD	D	NS	A	SA
19) Teachers' En/Fr CS provides better explanation and facilitates the understanding of medical English.	1	2	3	4	5
20) Teachers En/Fr CS enhances the vocabulary comprehension of students	1	2	3	4	5
21) Teachers En/Fr CS promotes the vocabulary amount (size) of students	1	2	3	4	5
22) Teachers En/Fr CS helps students to easily learn and retain medical terminology	1	2	3	4	5
23) Teachers En/Fr CS is time-saving and more effective when learning new vocabulary through French equivalents	1	2	3	4	5
24) Teachers En/Fr CS may lead students to use the wrong vocabulary (e.g. false friends between English and French)	1	2	3	4	5
25) Teachers En/Fr CS makes students confused and hinders their potential of learning authentic English	1	2	3	4	5

26) Teachers En/Fr CS makes students more confused and overwhelmed by the vocabulary parallels (e.g., medical terminology)	1	2	3	4	5
27) Teachers En/Fr CS may lead students to use CS and thus weakens their ability to be fluent in English	1	2	3	4	5
28) Teachers En/Fr CS makes students lose the opportunity to listen to and to practise more English and thus losing motivation to learn it	1	2	3	4	5
29) Teachers should limit the use of CS in the medical English course to give more opportunities to students to learn authentic English	1	2	3	4	5
30) Teachers should use En/Fr CS only to teach medical terminology	1	2	3	4	5

31) Do you think that English/French code-switching is an effective pedagogical strategy that helps medical students improve their learning and contributes in enhancing their vocabulary comprehension?

a. Yes

b. No

(Please justify)

Thank You for your Cooperation

APPENDIX -E-

EMP Teachers' Questionnaire

Dear teacher,

The purpose of this questionnaire is to gather substantial data regarding the utilization of English-French code-switching (CS) as a pedagogical strategy in English for Medical Purposes (EMP) courses in Algeria. Additionally, this instrument aims to elucidate EMP instructors' perceptions concerning the application and integration of French-English CS within the teaching and learning processes.

As an EMP educator, your direct involvement in and influence on the instruction of English for medical purposes render your insights invaluable. Therefore, your perspectives are of significant importance and are highly appreciated.

Your response will be kept confidential and used only for research purpose.

I. Background Information

Cross (✕) the appropriate box or rate according to the scales provided.

1. Please specify your personal data

1.1 Gender: Masculine Feminine

1.2 Occupation: Part-Time teacher Full-Time teacher

1.3 Age: 25-30 31-40 41-50 Above 50

1.4 Teaching Experience (years):

0-05 05-10 10-20 Above 20

1.5 Teaching Experience as an EMP teacher:

0-05 05-10 Above 10

1.6 Work place as an EMP teacher:

University Private School/Institute

1.7 Level in French language:

Beginner Intermediate Advanced

1.8 Languages you are fluent in:

Arabic French English

Other Languages (specify): _____

II. EMP Teaching and Teacher Training

2. As an EMP teacher, do you think that it is important to learn your students' profile?

Yes No Cannot answer

2.1. If 'No' please

justify _____

3. Prior to your courses, do you conduct any placement test(s) to check your students' level in?

➤ English language Yes No

➤ French Language Yes No

3.1 If 'Yes' which level do your students have in?

➤ English: _____

➤ French: _____

4. Do you know in which language your students prefer to have their medical course?

In full English In English/Arabic

In English/French I don't know

Other (please specify) _____

5. How comfortable you are in teaching EMP course?

Very Comfortable I don't know Uncomfortable

Comfortable Very Uncomfortable

6. Do you face any difficulties when teaching EMP course?

Yes No

6.1 If 'Yes' please select which of the difficulties are most relevant to you

	Yes	No
Lack of teaching materials relevant to EMP		
Lack of experience and absence of training in teaching EMP		
Teaching medical topics related to the field of specialisation is difficult		
Lack of knowledge about the field of specialisation		
Weak mastery of French Language which is needed in the EMP course		
Students basic skills (e.g., listening, note-taking, ...) are weak		
Students cannot understand medical topics when presented only in English		
Students cannot understand medical terminology when presented only in English		

Other (please specify)

7. Have you ever had any training in teaching English for Medical Purposes (EMP)?

Yes No

7.1 If 'Yes' please indicate kind of training and the language in which the training was conducted

8. Do you feel the need for EMP teacher training in your current job?

Yes No Cannot answer

8.1 If 'Yes' in which language would you prefer to have the training?

English English/French English/Arabic

Other (please specify) _____

III. EMP Teaching Materials

9. When you prepare your EMP course, which of the following you rely on

Type of Document	Yes	No	Not available
Curriculum for EMP teaching provided by University			
Syllabus provided by the department of Medicine/Pharmacy/Dentistry			
Personal syllabus			
Textbook(s) (EFL/ESP textbooks)			
Websites and internet resources			
Other (please specify)			

10. In which language the material(s) for EMP course design is(are) available?

English English/French English/Arabic

Other (please specify) _____

11. In which language your material(s) is(are) presented to students?

In their original language (English)

In two versions the original and the translated one in French

In two versions the original and the translated one in Arabic

Other _____

11.1 If you translate the material(s) into French, to what extent you use French?

I translate the whole material(s) into French

I translate small parts of the material(s) into French

I translate few words of the material(s) into French

12. Why do you translate your material(s) into French? (Multiple Choice Question)

- To save time by providing French equivalents
- To provide written explanation about odd or/and ambiguous words or information
- To make students at ease and avoid unnecessary questions
- To attract students' attention
- Other** (please specify)
-

13. Do you think that, translating the material(s) into French is?

- Very necessary Of little necessity Cannot answer
- Necessary unnecessary

IV. Skills Development in EMP Course

14. Specify the skill(s) developed in your EMP course, and mention which language of instruction you use to achieve your course objectives.

English (1), English/French (2), English/Arabic (3)

Skills	Language/s				
	Yes	No	(1)	(2)	(3)
Developing Grammar skills					
Improving vocabulary comprehension					
Improving listening comprehension					
Increasing English vocabulary (including professional related vocabulary)					
Increasing Medical terminology					
Developing the reading skills for medical purposes					
Developing the writing skills (for academic and professional purposes)					
Developing professional speaking and improving fluency					
Improving pronunciation and developing phonetics					
Developing interaction skills (taking part in discussions, debates...)					
Developing oral presentation skills (initiation, sequencing, greeting, concluding,..)					
Developing Translation and Interpretation skills					
Other skills (specify)					

15. You think that the use of French in your oral speech and instruction to achieve the objectives of your course is?

Very useful Not very useful Undecided
Useful Useless

V. *Language of Teaching and Language of Interaction*

16. Do you switch between English and another language when you teach your medical course?

Yes No

16.1 If 'Yes' which Code-Switching do you use?

English/French
English/Arabic
English/French/Arabic

17. In your opinion, why teachers tend to use English/French code-switching in the medical course?

(Multiple Choice Question)

- h. To provide a better explanation and clarification of the content in EMP.
 - i. To save time (e.g., providing equivalent vocabulary in French).
 - j. To show that you (teachers) master French and can use it properly.
 - k. To compensate for English vocabulary limitations (e.g., when you forget the word).
 - l. To attract students' attention.
 - m. To check students' comprehension.
 - n. To make students at ease since they are habituated to French as a medium of instruction (MI).
 - o. Other. (please specify)
-
-

18. How often you think the following practices happen in your course? Please circle the right answer.

Always (1), Often (2), Sometimes (3), Seldom (4), Never (5)

Item description	Frequency				
	(A)	(O)	(S)	(S)	(N)
How often do you use (English/French) Code-Switching in your classroom	1	2	3	4	5
You feel the need to switch from English to French to achieve your course objectives and to meet your students' needs	1	2	3	4	5
You allow your students to use (English/French) Code-Switching	1	2	3	4	5
You initiate the use of (English/ French) Code-Switching in your classroom	1	2	3	4	5
Code-Switching is initiated by your students in the classroom	1	2	3	4	5

19. Do you recommend the use of English/French Code-Switching in teaching an EMP course?

Yes No Cannot answer

19.1 If 'Yes' or 'No' Please explain why.

VI. Teachers' Attitudes towards the Use of English/ French CS in EMP Course

Please circle the answer which best describes your degree of agreement or disagreement.

Strongly Disagree (1), Disagree (2), Not Sure (3), Agree (4), Strongly Agree (5)

Item Description	SD	D	NS	A	SA
20. Teachers who master French and use it in teaching the EMP course are more credible to their students than teachers who do not master French.	1	2	3	4	5
21. Teachers use French in EMP course only because of its prestige in medical education (e.g., to cope with subject-specialists).	1	2	3	4	5
22. The use of French in the EMP course is highly required.	1	2	3	4	5
23. En/Fr CS helps teachers to better explain the medical content, therefore facilitates the process of understanding for students.	1	2	3	4	5
24. En/Fr CS enhances the vocabulary comprehension of students.	1	2	3	4	5
25. En/Fr CS increases the vocabulary amount (size) of students.	1	2	3	4	5

26. En/Fr CS helps students to easily learn and retain medical terminology.	1	2	3	4	5
27. En/Fr CS is time-saving and more effective when learning new vocabulary through French equivalents	1	2	3	4	5
28. En/Fr CS may lead students to use the wrong vocabulary (e.g., false friends between English and French).	1	2	3	4	5
29. Teachers En/Fr CS makes students confused and hinders their potential of learning authentic English.	1	2	3	4	5
30. En/Fr CS makes students more confused and overwhelmed by the vocabulary parallels especially the medical terminology.	1	2	3	4	5
31. En/Fr CS may lead students to use CS and thus weakens their ability to be fluent in English.	1	2	3	4	5
32. En/Fr CS makes students lose the opportunity to listen to and to practise more English and thus losing motivation to learn it.	1	2	3	4	5
33. Teachers should limit the use of CS in the EMP course to give more opportunities to students to learn authentic English	1	2	3	4	5
34. Teachers should use En/Fr CS only to teach medical terminology	1	2	3	4	5

35. Please feel free to add any comment(s) or suggestion(s) related to the use of English/French Code-switching in the EMP course, that you think have not been covered in this questionnaire.

THANK YOU FOR YOUR COOPERATION

APPENDIX -F-

Teachers' Semi-Structured Interview

As a follow-up to the teachers' questionnaire responses, this interview is developed to collect extended qualitative data about the use of English/French Code-switching in an academic medical course in Algeria.

Would you present yourself according to your professional qualification? And would you mention where did you work so far? And what medical classes have you taught?

1. What are the objectives behind the medical course you deliver (specify the level please)?
2. What are the main difficulties your students encounter in studying a medical course? Are there any difficulties related to the teacher's language?
3. Do you think that the use of En/Fr CS as a pedagogical strategy can overcome students' learning difficulties especially the lack of comprehension and thus can help teachers to achieve the course objectives?
4. In your opinion why does an EMP teacher use English/French Code-Switching? Is it for pedagogical purposes or non-pedagogical purposes? Or both?
5. Do you think that teachers' En/Fr CS contributes positively in developing and enhancing the students learning skills (vocabulary, listening, communication skills)?
6. Do you feel yourself obliged to switch from English to French in your medical course or it is a personal choice? Does switching happen deliberately or unconsciously?
7. To assure a successful medical course, it is required that EMP teachers should have a good mastery of French language, what is your point of view concerning this statement?
8. Some teachers believe that En/Fr CS can be an effective strategy pedagogically and communicatively speaking as it can help medical students improve their learning and contribute in enhancing their skills, whereas others think that En/Fr CS is an impediment that hinders the process of teaching and learning English for medical purposes? What do you think?

Before we close this interview, would you like to add any comments or suggestions regarding the use of En/Fr CS in medical English course?

APPENDIX -G-

FOCUS GROUP DISCUSSION

Focus Group Discussion: Perceptions about English/French Code-switching on English for Medical Purposes' Teaching and Learning

Number of Participants: 08 Pharmacy students/ 01 EMP teacher
Total Participant Time Required: 60__90 minutes
Total Focus Group Time: 90 minutes
Total Break Time: 10 minutes

Focus Group Procedure

A. Introduction and Explanation of Research Project and Group Process (15 minutes)

- Moderator (Researcher) introduces herself and explains the purpose behind research project.
- Brief explanation of Focus Group Process, definition and purpose plus time required to fulfil this process.
- Researcher ensures the confidentiality and privacy of the names of participants as well as their opinions and thoughts.
- Researcher have participants complete information form and sign consent.

B. Group Discussion Questions (30__45 minutes)

- Requesting Participants' introduction
- Presenting, discussing and sharing opinions about the five discussion questions
- type-recording participants answers and opinions

C. Acknowledgments and Conclusion (15 minutes)

- Asking participants whether their perceptions towards the discussed topic have changed throughout the focus group discussion and requesting more clarifications about the changed perceptions.
- Concluding the focus group discussion with acknowledgments and gratitude for participants who were willing to take part in this investigation.

Focus Group Discussion

Participants 'introduction: would you please introduce yourself one by one, please tell us your name, age and what is your impression about studying pharmacy?

1. Why is learning English important for Medical (pharmacy) students?
2. What specific skills do you think medical students need to learn and improve?
3. What kind of difficulties medical students face when learning English for medical purposes?
4. Do you think that studying English via English/French Code-switching will help you overcome your learning difficulties and improve your learning skills?
5. Do you think that teacher's English/French Code-switching could have a negative impact on your learning and learning skills?

Conclusion: Has your perception about the role of English/French Code-switching in EMP instruction changed during this discussion? If so, how?

That's all the questions I have. Thank you for participating in this discussion. Your comments will be invaluable in the development and progress of the EMP course in Algeria.

Focus Group Participant Information Sheet

Focus Group Information

Location (University):

Date:

Time:

Section/Group:

Please provide the following information:

First Name: _____ Last Name: _____

Phone: _____ Email: _____

Age: _____ Gender: _____

Origin: _____

Language most frequently:

Written _____ Spoken _____

Please read the following statement about how your confidentiality will be protected.

I understand that my personal information will be kept **strictly** confidential. I understand that what is said in the group will be tape recorded, but no names or identifying information will be used in the summary of the group discussion. It is my choice to be a part of the focus group and I can change my mind at any time.

Sign: _____ **Date:** _____

ملخص

تبحث الدراسة في استخدام التحول اللغوي (التناوب اللغوي) بين الإنجليزية والفرنسية كممارسة خطابية في تدريس اللغة الإنجليزية لأغراض طبية في الجزائر. من خلال دراسة حالة تركز على المدرسين وطلاب الصيدلة في جامعة سطيف -1-، يستكشف البحث كيف يسهم التحول اللغوي في تسهيل فهم المحتوى الطبي، تعزيز استيعاب المفردات، ودعم التفاعل في الصف الدراسي. اعتماداً على منهجية البحث التي تجمع بين الأساليب الكمية والنوعية، تكشف الدراسة أن المدرسين يلجؤون إلى التناوب اللغوي لأغراض بيداغوجية (مثل توضيح المصطلحات الطبية المعقدة) وأخرى غير بيداغوجية (مثل تشجيع التفاعل الاجتماعي). في المقابل، يعتمد الطلبة على التناوب اللغوي لتجاوز الصعوبات الناجمة عن تعلم اللغة الإنجليزية عبر نهج أحادي اللغة. وبشكل عام، تشير النتائج إلى وجود مواقف إيجابية تجاه دمج التحول اللغوي في تدريس وتعلم الإنجليزية للأغراض الطبية، كما تسلط الضوء على فوائده، وتقدم توصيات لتعزيز الممارسات التعليمية بشكل أكثر فاعلية.

الكلمات المفتاحية: التحول اللغوي- اللغة الإنجليزية لأغراض طبية- ممارسة خطابية- مواقف- تعليمية و غير تعليمية

Summary

This study investigates the use of code-switching between English and French as a discursive practice in teaching English for Medical Purposes (EMP) in Algeria. Focusing on teachers and pharmacy students from Sétif -1- University, it examines how code-switching facilitates the understanding of medical content, enhances the vocabulary comprehension of learners and supports the classroom interaction. Through a mixed-methods approach, the research reveals that instructors employ code-switching for both pedagogical (e.g., clarifying complex medical terms) and non-pedagogical (e.g., encouraging social interaction) purposes. Meanwhile, students resort to code-switching to overcome the challenges of learning English via a monolingual approach. Overall, the findings indicate positive attitudes toward integrating code-switching in EMP teaching and learning. The study also highlights its benefits and offers recommendations for more effective instructional practices.

Key words: Code-switching- English for Medical Purposes- Attitudes- Pedagogical and non-pedagogical

Résumé

Cette étude examine l'utilisation de l'alternance codique entre l'anglais et le français en tant que pratique discursive dans l'enseignement de l'anglais à des fins médicales (EMP) en Algérie, à travers une étude de cas, celle des enseignants et des étudiants en pharmacie de l'Université de Sétif -1-. L'étude explore comment cette pratique contribue à la compréhension du contenu médical, au développement du vocabulaire et à l'amélioration des échanges en cours. En utilisant une approche mixte, la recherche montre que les enseignants recourent à l'alternance codique à des fins pédagogiques, notamment pour clarifier des notions complexes, mais aussi pour favoriser la communication et encourager l'interaction en classe. De leur côté, les étudiants utilisent cette stratégie pour surmonter les difficultés liées à l'apprentissage de l'anglais dans une approche monolingue. De manière générale, les résultats révèlent une attitude positive à l'égard de l'intégration de l'alternance codique dans l'enseignement/apprentissage de l'anglais (EMP). L'étude souligne également ces avantages et propose des recommandations en vue d'optimiser les pratiques pédagogiques.

Mots clés : Alternance codique- Pratique discursive- L'Anglais à des fins médicales- Attitude