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Teaching and Learning Strategies for Medical English: Case of Medical Students at the Faculty of Medicine Oran

*An Extended Essay Submitted in Partial Fulfillment of the Requirement for a
Master's Degree in Didactics and Applied Linguistics*

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Dedications

To my parents

To my brother and sister

To my husband

To my friend Malia Nada ASSAINE.

Acknowledgments

I am profoundly grateful to Allah for granting me the patience, guidance, faith and health to complete this work with success.

First, I owe an appreciation to my supervisor, Dr **Boubekeur BENGUERFI** for his support, encouragement and unlimited trust, the completion of this work could not be possible without his expertise and guidance.

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Special thanks to my precious teachers who have taught me and guide me during all my years, their transmitted experience and guidance shaped my learning journey.

Last but not least I would like to thank all the participants for their immense collaboration and assistance specially the residents of medical university of Oran.

I thank myself for believing in me and not giving up.

Abstract

Arabic, French and English shaped the Algerian linguistic diversity. The emergence of the English language through the historical factors as colonization and the actual globalization, led to the rise up of English for specific purposes, especially in the medical field because nowadays English tailors the language of instruction in scientific, academic and professional needs. For those reasons it becomes crucial to explore English for specific purposes' teaching and learning strategies to guarantee its effectiveness in education generally and in communication specially. This study explores the different learning strategies used in English for medical purposes classrooms and its contribution in the development of the teaching/learning process. In order to answer the research questions a quantitative research design was applied in which two questionnaires were addressed to forty medical students and thirty teachers from medical department at the faculty of medicine of Oran (AHMED BEN BELLA) to examine the utility of the learning strategies and to gather a reliable data about it. The study' findings have revealed that the learning strategies and teaching techniques used in EMP classrooms are effective, though the persistence of many challenges as the absence of standard curriculum and the teachers' training gaps that prohibits the English language proficiency.

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List of acronyms

EAP	English for Academic Purposes
EBE	English for Business and Economics
EE	Extramural English
EFL	English as a Foreign Language
ELT	English Language Teaching
EMP	English for Medical Purposes
EMT	English as a Mother Tongue
EOP	English for Occupational Purposes
ESP	English for Specific Purposes
ESL	English as a Second Language
ESS	English for Social Sciences
EST	English for Science and Technology
GE	General English
MCQ (QCM)	Multiple choice question (Question à choix multiple)
NA	Needs analysis
OSCE	Objective structured clinical examination
PBL	Problem based learning
TBL	Task-based learning

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General Introduction

General Introduction

The phenomenon of globalization has pushed English to the forefront to be lingua-franca, where it transmits the borders and become the language of communication, science, culture, commerce and trade. The great emergence of English stems from historical factors like the British colonization and expand through internet and social media. English proficiency becomes crucial with the integration of countries into this international network.

In Algeria, the combination of cultures requires a diversity of spoken languages and linguistic aspects. This diversity rooted in Tamazight as a national language, Arabic as the official language of the country, French as an inheritance from the French colonization where it remains important in education, professions and administration especially in the technical and scientific fields as medicine. The post-independence era has prioritized Arabic and French however today with globalization a balance is needed where the English language does not serve as a replacement but as a material integrated to the world of economy and science.

A foreign language as English began to rise in Algeria. As young people consider it as a valuable tool to social communication the position of this language has become more solid since it offers major opportunities in both the academic and professional levels. English as a foreign language was first introduced in middle school in 1962 and then monopolizes the world of scientific research and technology.

Since English has become the language of science worldwide and in Algeria specifically, the Algerian government introduced it as a foreign language in primary school and shifting the universities instructions from French to English regarding its importance especially in technical and scientific domains as mathematics and medicine for example. However, as it is known the Algerian universities has no solid basis in teaching and learning English so the English courses still follow General English modal, where the gap has

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emerged, and English for specific purposes experts argue that General English do not meet the communicative needs of the Algerian professionals and learners and there must be a creation of a specific modal and adapted strategies to serve this purpose.

This study focuses mainly on teaching/learning medical English in Algeria. Since it is known that the Algerian curriculum does not consist of a specific teaching modal it was crucial to shed the lights on the different learning strategies and teaching techniques that enhances the communicative needs of English for medical purposes learners and future professionals. In addition, the objectives of this study are:

- To shed the lights on the weakness and gaps in the current learning strategies and teaching techniques so that the teachers adjust and create a new teaching resources.
- To examine the efficiency and the adequacy of EMP learning strategies for both the academic and professional contexts.
- To provide curriculum planners, teachers and learners with empirical insights on what enhance EMP classrooms.

Since the Algerian universities are in transition mode from French to English, it is important to shed the light on the right teaching techniques and learning strategies especially when there's no solid based curriculum to teach EMP. The current research adopts the theme of learning-Medical English through using different strategies (task-based learning, problem-based learning, case study approach, simulation and role play) bridging the gap between the theoretical knowledge and the practical demands of the learners. This theme was selected because Medical English students possess strong General English and technical vocabulary; however, they lack the ability and the needed skills in using their technical language in a

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practical setting such as communicating to foreigners, diagnosis explanation...). through centring the research on real-world activities, the research will aim to address a pedagogical need, jumping from a static English to a more dynamic subject that allow the Algerian students, practitioners and doctors to communicate confidently and guarantee a better healthcare.

This research aims to give answers to the following question:

- What are the most effective learning strategies in developing medical English proficiency and communicative skills?
- What prominent language skills and content areas that are missing from the current teaching/learning strategies?

In order to respond to these questions, the research hypotheses can be formulated as follows:

- Communicative teaching/learning strategies as task based learning, Problem based learning and role play will result in higher medical English proficiency.
- The focus on EMP teaching/learning strategies analysis contributes to the teachers' expertise and learners' development.

This study has a significance for students, teachers and the policy:

- For students it identifies the exact barriers that causes failure
- For teachers it gives a list of needs to design courses instead of teaching blindly.

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- Policy significance: it sets the basis needs to allocate resources for EMP support and teacher training before expanding English to another discipline.

In order to test the research hypotheses and respond to the questions, the study was divided into three chapters:

The first chapter represents the theoretical background, it provides a general overview on the globalization of English language, its status in Algeria, as well as ESP teaching and needs analysis, it explores also medical English teaching in ESP framework and the different EMP learning strategies as task-based, problem-based learning, case-study approach and simulations. Furthermore, this chapter uncovers the main challenges in teaching medical English in Algeria and the low exposure of English outside the classroom.

The second chapter was devoted to the methodological procedures and design, including the quantitative design, data collection and analysis. It reveals also the steps used for conducting these procedures, including sampling, research instruments and the research participants, mentioning the questionnaires devoted for both the learners and teachers. Generally, it explains the ways of gathering and analysing data.

The third chapter is analytic, it begins with introducing the obtained data from the learners and teachers' questionnaires, and then the research findings were analysed and interpreted. By the end a set of recommendations and suggestions were given for better improvements in the field of EMP.

**Chapter One: Literature
Review of EMP Teaching
and Learning Strategies**

Literature Review Of EMP Teaching And Learning Strategies

1.1 Introduction

Learning English has become essential for medical professionals and necessary for their training, because the English language has taken the position of Lingua Franca when all the scientific sources, books, articles, reports, journals and most of the conferences and congress has been presented in English.

English for Medical Purposes has become the core and the crucial medium for learning in the medical field. It represents a sub-branch of ESP which is important for both academic and professional needs for learners in the medical fields, there are many factors for medical professionals to learn English in the Algerian setting regarding the paramount status of English in the world and in Algeria taking into consideration the actual transitional mode from French to English that Algeria is living nowadays.

Several strategies and tools have been suggested by scholars and researchers to enhance the language proficiency and fluency as well as technical vocabulary load in the academic and professional settings, shedding the lights on the different challenges that ay occurs within the process to overcome the difficulties and provide practical solutions.

1.2 Teaching English as foreign language

Teaching English as a foreign language means teaching EFL where English is not an official language. it focuses on developing their English level through teaching the four skills (reading, listening, speaking and writing) as well as teaching pronunciation, vocabulary and grammar. Teaching EFL relies mainly on the teachers' and students' expectations of the language learning as well as the context that includes the environmental factors, the classroom management and the atmosphere.

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When learning English learners differ in term of their expectation, need, interests, levels, style and attitude, as well as the teachers they differ in the expectation and the teaching style, the teachers must teach according to their beliefs and personalities taking into consideration their students' wants and their cultural circle (Tomlinson,2005)

In teaching English as a foreign language teachers may face many difficulties in achieving practical objectives according to Dean (2004) teaching EFL is “messy”, it's a context based and recursive but not straightforward. Other teachers struggle with student's cultural backgrounds, as well as other psychological and educational difficulties that students struggle with as motivation, learning style and teacher's attitudes, so teachers should teach according to their beliefs and cultural norms (Tomlinson, 2005).

Richard and Rodgers (2014) frame approaches to teach EFL through two theories: the first theory is related to the nature of language proficiency taking into consideration the mastery of the language according to the structural, functional and the interactional schools; the second theory is related to learning processes such as cognitivism, behaviorism and the socio-cultural theory.

Teaching EFL is a complex process and messy as described by Dean (2005) that should be done attentively and with awareness.

1.2.1 English as international and global language

English serves as a global language due to its widespread use as a lingua franca, it dominates every aspect in life from business, science, technology and politics, and most of native and non-native speakers are using it as a mode of communication, influenced by both the British Empire and the United States. It is the most widely learned second language, crucial in various domains and occupations worldwide.

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Vajadi (2013) explains that English is global and, in its way, to become dominant global language, because in the field of science it can bring efficiency gains. However English still holds some drawbacks because it is the world's dominant language in the modern era, and it's known as the Lingua Franca, but it's not considered as an official language in most countries.

English holds a dominant position in various countries, mentioning the United Kingdom, the United States, and many Commonwealth nations (Australia and Canada) and the other former British colonies. The fields of cinema, airlines, broadcasting, science, and the Internet has strengthened English's position as the most widely learned second language worldwide. Nowadays, English has become an educational and professional necessity, where students around the world are required to learn some English and having some basics and functional understanding in the occupational and professional settings (Chandrakar, 2024).

1.2.2 The status of English in Algeria

Nowadays, English represents the principal international language for technology, society, the educational sector, the scientific research, and the international diplomacy. English has become worldwide the language of communication. Therefore, it goes without saying that teaching English is becoming a crucial aspect of education and research in the world.

Algeria has always been a multilingual country due to its great history due to its colonization from different colonizers, where the French language takes the dominant status. Today English is no longer marginal, the global spread of English around the world also reached Algeria, and an increasing interest in the language has been noticed during the recent years in the country (Sahraoui, 2021).

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The status of this international language has seen from different angles, the government gave it an official status, according to the ministry of education it's increasingly taught and learnt in schools and universities, in public settings it's highly used between the youth and limited among the other categories, generally the English language usage is low but it's rising. However, Algeria is far away from replacing Arabic and English in the everyday use and Professional context.

1.2.3 ESP teaching in Algeria

The field of English for specific purposes was emerged by the 1960s and 1970s, as a reaction to the international spread of English in many domains as science, technology and commerce after the World War II. As English became a lingua franca in these domains, professionals and students needed a special targeted language to use only in their real-life situations. Another reason led to the emergence of ESP was the revolution in linguistics where linguists began to neglect the idea of the domination of grammar rules on the usage of the language and started to think that the discourse varies according to the context. As a result, to these factors, it was needed to move from general English toward a learner-centered and a goal-oriented instruction.

English for Specific Purposes (ESP) refers to teaching and learning English as a second or a foreign language where the focus is on using English which is specific to a particular domain. By the 1978 Stevens argued that « producing a simple definition to ES is not an easy task ». Mackay and Mountford (1978) presented ESP as « generally used to refer to the teaching of English for clearly utilitarian purpose ». Robinson (1991) states that students do not study English because they are interested in it but because they need it in their works and studies so the main reason of studying English is for the learner's need of this language in

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both the academic and occupational setting and to so that the learner's build up the needed abilities and skills to use them in a specified inquiry.

Richard (2001) got another opinion concerning ESP he argued that ESP teaching aims are: preparing the non-native speakers for study in the English-medium academic context and preparing those who are already fluent are master the general English to specified in more domains such as engineers, scientists, doctors and nurses.

Hutchinson and Waters by the 1987 attempted to define English for specific purposes not by showing what ESP is but by rather showing what ESP is not:

- a. ESP is not a matter of teaching 'specialized varieties' of English. The fact that language is used for a specific purpose does not imply that it is a special form of the language, different in kind from other forms. Certainly, there are some features which can be identified as 'typical' of a particular context of use and which, therefore, the learner is more likely to meet in the target situation. But these differences should not be allowed to obscure the far larger area of common ground that underlies all English use, and indeed, all language use.
- b. ESP is not just a matter of science words and grammar for Scientists, Hotel words and grammar for hotel staff and so on. When we look at a tree, we see the leaves and branches, but there is much more to the tree than just these-much of it hidden from view inside and beneath the tree. The leaves do not just hang in the air: they are supported by a complex underlying structure. In the same way there is much more to communication than just the surface features that we read and hear. We need to
- c. distinguish, as Chomsky did regarding grammar, between performance and competence, that is between what people do with the language and the range of knowledge and abilities which enables them to do it.

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d. ESP is not different in kind from any other form of language teaching, in that it should be based in the first instance on principles of effective and efficient learning. Though the content of learning may vary there is no reason to suppose that the Processes of learning should be any different for the ESP learner than for the General English learner. There is, in other words, no such thing as an ESP methodology, merely methodologies that have been applied in ESP classrooms, but could just as well have been used in the learning of any kind of English. (Hutchinson and Waters 1987).

Hutchinson and Waters designed a tree diagram for ESP to note that it branches out from general English teaching to a more specialized area. It categorizes ESP and helps the teachers and the learners to see the relationship between ESP and GE.

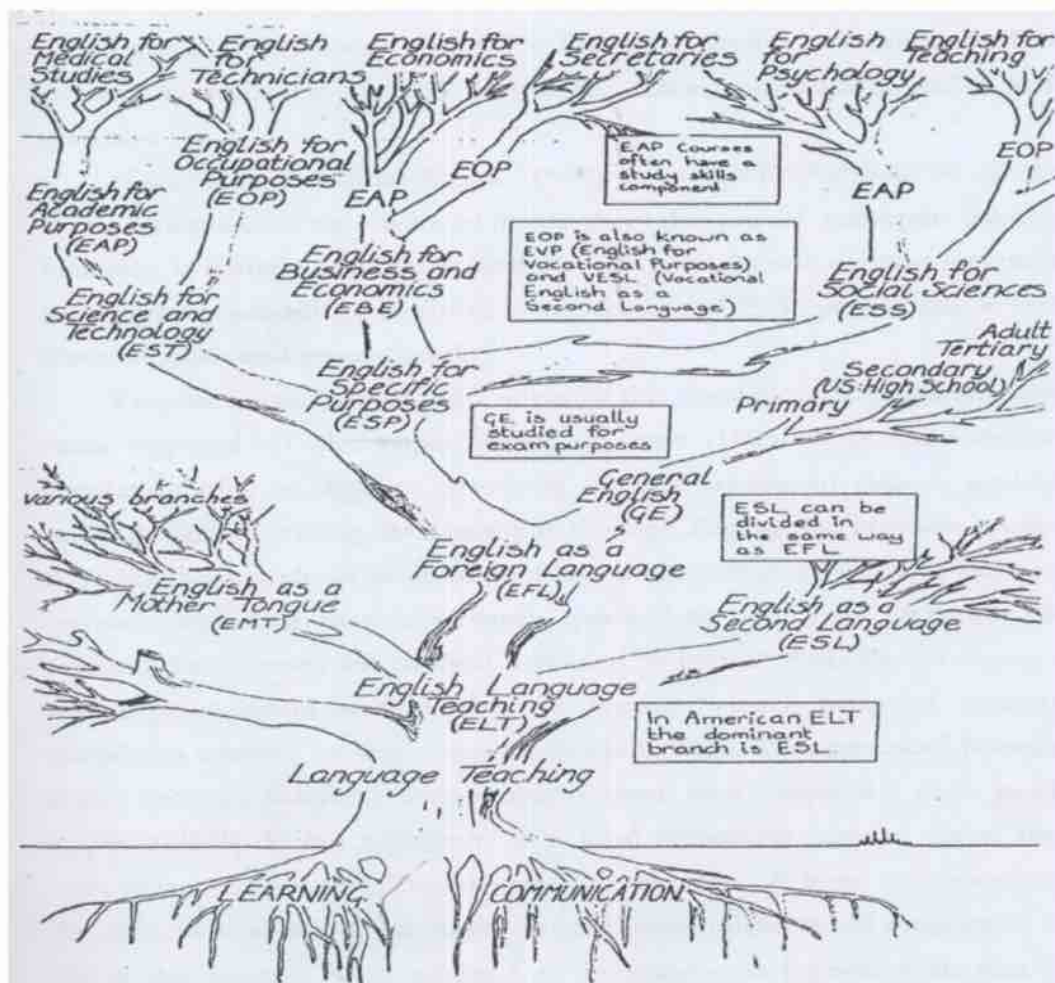


Figure 1 [1.1]: ELT Tree (Hutchinson and Waters 1987, p. 17)

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1.2.3.1 ESP teaching in the Algerian setting

By the time the teaching of English for specific purposes evolving, driven from the necessity to build up specialized skills and abilities needed in the academic and the professional context, the recent Algerian studied shed the lights on the current practices and challenges in teaching ESP, teacher training and development, course and material design.

Benabi (2022) assume that the module of ESP is mainly taught by either the teachers or are specialized in ESP or in English in general where they need to have the right pedagogical materials to help them be effective in their performance specifically the « coursebook »; where teachers must express their need for materials that reflect the real-world context.

Boudersa (2018) presented many challenges faced by ESP teachers in Algeria assuming that teaching a ESP must be done by a specialist in the field, where most of general English teachers are not prepared or well trained to be an ESP teachers and so that the lack of training programs for the Algerian ESP teachers. However Britel (2022) shared another point of view concerning the challenges within the ESP field, he assumed that there challenges in the material design when it comes to ESP teaching hampered by various factors, including institutional limitations, inadequate training, and a lack of access to current resources; so the results indicates the teachers lack confidence and preparedness to design ESP materials , as well as the lack of competence due to time constraints, and insufficient ongoing professional development and the need for institutional support including access to authentic resources, targeted workshops, collaboration with subject matter experts, and dedicated time for material development.

The ESP teachers are teachers at vocational schools, colleges and universities, however professional ESP teachers must be experts in teaching English and design authentic materials based on the content adapting to any specialty or profession, integrating with experts of the

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subject matter. Professional ESP teachers are experts in teaching English for any profession, able to design.

1.2.3.2 Role and Responsibilities of ESP Teachers

According to many scholars the responsibility of the ESP teacher is not restricted to a language teaching but it's deeper than that.

Evan and John (1998) preferred the term « ESP practitioner » because the term seems



more detailed, deep and englobe all the responsibilities

Figure 2 [1.2]: The Role of ESP Teacher

1.2.4 Needs analysis

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Because ESP focuses on teaching and developing specific language area and communication skills, the ESP course design include an important step or stage where the course designers investigate the specific skills the learning group will need. It's used either in designing the course or to assess the learners by the end of the learning process.

Many definitions of needs analysis are provided by Hyland (2006) he represents needs analysis and the central, ongoing process in ESP course design, it's an activity that is shaped by the teacher's beliefs, the institutional constraints and the learners goal and it must be:

- a) Multi-dimensional (including target situation, present situation, and learning needs).
- b) Continuous and dynamic (updated during the course, not only before it).
- c) Learner-centered, aiming to align course content and methodology with students' academic and disciplinary requirements.

Needs analysis establishes the WHAT? HOW? And WHO? of the course it represents the head of the ESP course development, curriculum, materials, methodology, assessment and evaluation those activities are not separate, but they complete one another.

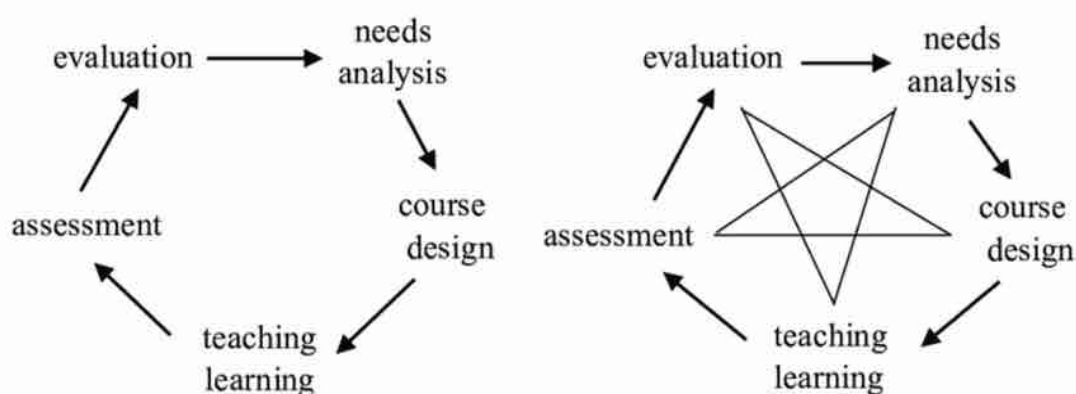


Figure 3 [1.3]: Linear vs. cyclical processes of needs analysis (Dudley-Evans and St John 1998)

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Dudley-Evans and St John (1998) designed a road map about how needs analysis should be done:

- a) Professional information about the learners: The tasks and activities learners are/will be using English for target situation analysis and objective needs.
- b) Personal information about the learners: Factors which may affect the way they learn such as previous learning experiences, cultural information, reasons for attending the course and expectations of it, attitude to English wants, means and subjective needs.
- c) English language information about the learners: What their current skills and languages are present situation analysis which allows us to assess (D).
- d) The learners' lacks: The gap between (C) and (A) – lacks.
- e) Language learning information: Effective ways of learning the skills and language in (D) learning needs.
- f) Professional communication information about (A): Knowledge of how language and skills are used in the target situation – linguistic analysis, discourse analysis, genre analysis.
- g) What is wanted from the course?
- h) Information about how the course will be run – means analysis.

Needs analysis is not only an objective activity, it's like any other practice relies also on the teacher's beliefs, interests, students and language.

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1.3 Medical English in ESP Framework

ESP as a field was developed in the period after World War 2 for many reasons mainly English for science and technology. This subfield of ELT becomes independent of its own. It suggests that English must not be taught for its own sake but for the learner's interest like English for medical purposes.

The ESP investigation led to the emergence of other subfields cited by Master (2005) which are English for Academic Purposes (EAP), English for Science and Technology (EST), English for Occupational/ Professional Purposes, English for Business and Economy (EBE), English for Medical Purposes (EMP) and English For Academic Legal Purposes.

Medical English is a branch of ESP that focuses on developing the needed language and skills for medical study and practice. It is designed to serve the needs of medical students, nurses, and the health professionals, that need English in their academic, clinical or professional setting.

As a subfield of ESP, English for medical purposes is a field of inquiry that covers many related topics and points, Ferguson (2013) resumed those aspects of inquiry in EMP which are the genres, the grammatical features, aspects of medical vocabulary, the spoken genres of doctor-patients' consultations, conferences and medical congress presentations. Research about those areas plays a crucial role when it comes to course design which gives the practitioner the main points that differentiate the medical field and the language used in it from other scientific domains.

1.3.1 Teaching strategies in ESP

ESP teaching strategies are build up to serve the idea that users of English must be trained to use and communicate in English effectively in their academic and professional

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settings, what is so say that the focus of ESP teaching strategies is not about a traditional knowledge of the language system and the grammatical rules, however it focuses more on using more communicative approaches to manage the real world situations, and since ESP is a learner-centered and needs-based, teachers must take into consideration the students' needs, interest, goals and levels and must be selective and combines different methods to rather than using one fixed approach. (Willis, 1996).

The presentation of the ESP teaching strategies is a flexible and eclectic, where the traditional methods can be used for more clarification but the integration of communication strategies as simulations, role- plays, task-based learning, problem-based learning and case-study approach is crucial.

1.3.1.1 Task-based learning

TBL is a powerful strategy in ESP teaching, it teaches learners how to use the language and communicate in the real world, profession related tasks rather than practicing the language items in isolation.

With task-based learning approach the emphasis is on meaning rather than the form and structure of the language, students are asked to share their own opinion concerning the subject matter, the examination of the meanings are acquired through the communicative tasks and serve as the foundation of these concepts. Willis (1996) assumed that within TBL framework tasks and texts combine to give a student a deep and a rich exposure to the language so the student will acquire the grammar inductively by his own through tasks.

Willis (1996) pointed that through TBL instructions learners perform several activities which provides them with the opportunity for practicing different skills from reading and listening to speaking and writing and even helps in increasing the ability in thinking critically.

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The role of assessment within this approach is paramount and centered on how real-world activities are done not how accurately the linguistic structures are used; evaluating the learners progress is incorporated in the lesson plan (Nuan,2004).

According to Ellis (2003) the pioneer of task development tasks in L2 are important, he created three phase approaches:

- Pre-task: it motivates the learners and activates the topic based lexical
- Task phase: the application of the task using all skills to achieve its objectives
- Post-task: learners are required to resume and conclude what they have done orally, which deals with the form-focused activity.

1.3.1.2 Problem-based learning (PBL)

Problem- based learning is an effective strategy to ESP teaching it goes beyond the ordinary methods to make learners use English to solve a real academic and professional problems. The ESP practitioner instead of organizing the course he provides students with a real-field problem when students must investigate, discuss, and solve problems in collaboration.

Duch (2001) describes PBL as an "overall approach to learning using real-life, context-grounded scenarios to acquire, process and apply concepts". According to Woods (2020) within this approach the students engage actively at solving complex problems of a collaborative nature. Allowing students to show thinking skills, collaboration, independence, teamwork, communicative skills and interdisciplinary learning.

In general, problem-based learning starts with the identification of the problem but according to this method several conditions must be changed, in which the problem must be

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used as a vehicle, the activation of student's prior knowledge is necessary not find the entry points to the actual problem, creating an environment that is full of collaborations, teamwork, discussion, negotiation, independence and decision making, fostering critical thinking and reflective skills to solve real problems. (Graff and Kolmos, 2003)

Engelbrech (2001) assume that the traditional approaches provide learners with a superficial understanding of the topic where students rely only the teacher's explanation, so it's considered as a passive, dependent way of learning and the assessment is purely on memorization rather on the application of the knowledge acquired. A comparison held on both traditional approach and problem-based learning in the table below:

Table 1 [1.1]: The Differences in PBL and Traditional Approaches to Teaching

Problem Based Approach	Traditional Approach
Focus on learning	Focus on teaching
Flexibility in teacher's and learners' roles; the role of the teacher is that of facilitator, guiding and mentoring learners	Limited or no flexibility in teacher's and learners' roles; the teacher plays the role of a content expert.
Change in power dynamics: the teacher becomes one of the participants like the other students. Perhaps sometimes, the learners bring in new perspectives that may not have occurred to the teacher.	Power dynamics remain the same: the teacher knows all, and the students do not contribute to the body of knowledge.
Divergent way of thinking, leading to multiple answers	Convergent way of thinking to one right answer

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Learning by doing, understanding, constructing, discovering knowledge leads to self-directed learning: so, learners are intrinsically motivated	Learning by transference: receiving and acquiring knowledge: learning is teacher- directed, so the learners are extrinsically motivated
Process and performance-oriented learners: learners work individually and collaboratively	Mastery oriented learners: learners work individually
Encourages critical and reflective Thinking	Very limited or no scope for critical or reflective thinking
Assessments are focused on 'application' and 'creation': learners answer questions through an exploration	Assessment is focused on 'recall:' learners answer questions based on knowledge learned.
Alternative forms of assessment: product and process are assessed through reports, (poster) presentations, journals, reflections, performances, elevator pitches, self/peer evaluations, etc.	Traditional assessment techniques that measure only the final product

Within TBL the assessment is formative and continuous rely on self-assessment, peer assessment, and the practitioner's feedback, it focuses on the process or the way of solving the problem, the final product and the student's presentations, it gives a more holistic about the students and prepare them for the Complexity of their real career.

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1.3.1.3 Case-study approach

The case-study approach involves in depth the analysis of real- world teaching/ learning scenarios from specific professionals and or academic fields in order to tailor the language instructions that meet the learners needs. It provides them with real life scenarios, requiring them to use the targeted language in context.

Mackay and Mountford (1978) define case-study as a holistic approach, analyzing original cases to fill the gap between theory and practice, enhancing proficiency in language in the different ESP fields. The pioneers of ESP as Dudley- Evans and St. John argued that teaching English for specialized purposes is tied to the context in which the language is used they have also emphasized the absolute characteristics of ESP as needs analysis and learner-centered design which support case studies through the integration of tasks for practical language use (Dudley-Evans and St. John,1998).

The constructivist learning theory was foundational theoretical framework that supports the use of case-study, according to Dewey (1938) knowledge is actively constructed rather than passively absorbed, which represents the core idea of the experiential learning. Kolb's (1984) experiential learning relies mainly on the concrete application of experiences and the reflective observation, the two features that must be present in the real-world cases.

Context-specific tasks highly increase ESP acquisition while the traditional approaches and grammar teaching fail to reflect the complexities of the language used in professional communication, the case-study derived from real world situations succeeded to expose students to a high quality of language through the understanding of some key areas like style, register, pragmatics and critical discourse (Hutchinson and Waters,1987).

All scholars agree that the case study approach is an important strategy to ESP teaching because it enhances a pragmatically, meaningful, contextual language acquisition through

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creating the needed balance between theory (learning of specialized language) and practice (practicing the language in real context).

1.3.1.4 Simulation & role-play

Role-play and simulation are powerful, experiential, strategies in ESP teaching that help in immersing the learners in a real, professional scenarios to enhance a targeted skill. Role play and simulation involve assuming and practicing roles such as Doctor-Patient in EMP, its main focus in to teach learners how to use a functional language according to real situations for example: greetings and requests, and that is to enhance the pragmatic, cultural awareness, fluency and interaction. Through these strategies students deepen their professional knowledge, understand the nature of humans' relationships, acquire how to react in real situations and enhance their communicative competence and skills (Jankovcová and al, 1988; Kotrba and Lacina, 2011). Role play is organized in three stages:

- The preparatory stage.
- Self- realization.
- Evaluation of the production.

1.4 Challenges in teaching Medical English

Teaching Medical English to university students hold a set of challenges, where teachers must deal with different issues such as students' low motivation, the nature of the curriculum and the management of class heterogeneity, according to Nezakatgoo and Behzadpoor (2017) there are three main challenges that may face the EMP teacher which are the Institutional related challenges, Learners related challenges and Teachers related challenges.

a) Institutional Challenges

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The Institutional challenges consists of all the unrealistic aims, times restrictions, the classroom size and the attendance, limited materials, syllabus related challenges, assessment and evaluation.

- **Unrealistic aims**

It happens when the university or the institution fail to set a clear objective, focusing on teaching the language without mentioning the aim and the content of teaching, ESP teaching impose a specific curriculum adding the challenges of the medical domain like large classes for example (Erickson, 2005).

- **Times restrictions**

Limited time in teaching EMP courses may be a challenging issue, 2 hours per week precent the mastery of EMP skills as reading articles as writing activities, time limitations prohibit language authentic feedback, needs analysis and language proficiency.

- **Syllabus related challenges**

Sometimes the EMP syllabus give more importance to vocabulary, translation and grammar, neglecting the productive activities such as speaking and writing skills that enhance the language proficiency and real-life tasks, and mismatch with French medium context (Dzięcioł-Pędich and Dudzik,20155).

- **Limited teaching materials**

Algeria lacks the authentic teaching materials due to several reasons such as the existence of markets, the fast advancement of the medical field and the high expansively of these materials.

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○ Evaluation

EMP exams rely on multiple choice questions rather than productive activities as speaking and writing.

○ Attendance and classroom size

Big classroom size maybe so challenging and make learning unmanageable.

b) Learners related challenges

There are some challenges that are related the learners only such as learners' heterogeneity in which they can differ in their level of understanding and intelligence and their cultural background, students differ also in their attitudes and motivation where motivated students can show higher levels of English proficiency, another challenge related to students is the poor general English proficiency that may cause some problem with sentences formulation and writing (Belcher, 2006). Finally, students rely on test scores as a mode of evaluation rather than communication ignoring learning within a real context.

c) Teachers related challenges

One of the dominant challenges in EMP teaching is teachers related. This issue has shown due to multiple factors in instance most universities stem from non-specialist EMP teachers where they seem unfamiliar with the medical terminology and jargon, so they rely on translation leading to discomfort inside class (Dzięcioł-Pędich & Dudzik, 2015; Szymańska-Tworek, 2017).

They also struggle to manage the students' needs mainly the psychological one especially the unmotivated and timid students. ESP teachers lack also the content related knowledge and expertise in the field, in addition to their non-native nature, they have low limited

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experience in testing and in designing specialized EMP courses, using authentic materials and poor coordination between teachers and collaboration with teachers of the subject matter.

1.5 Technical vocabulary load

Technical vocabulary load in English for Medical purposes is very complex and specialized which can be challenging in the teaching field, students may struggle in memorizing and mastering the heavy number of vocabularies however with the right strategies the teaching process will succeed at overcoming this issue.

In EMP classes learners are exposed to different texts related to medical context, they grasp the technical vocabulary through using different strategies (Nation,2001). According to Brikena (2010) among these strategies asking and guessing from the context where students are allowed to use dictionaries and analyze sentences patterns. another point of view was presented by Georgieva (2007) teaching technical vocabulary goes through stages

- Presenting the word with its synonym or antonym.
- Matching terms to their pictures or to their definition.
- Presenting new words in a scale.
- Visualizing

After presenting the term the practitioner must assure its memorization and use with productivity, supporting this procedure with the several activities as matching drill, categorization, and multiple choice and tasks completion.

1.6 Low exposure to English outside class

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The low exposure to English outside class can restrain the language acquisition among learners. Research indicates that many students especially in non-English- speaking countries do not engage with English outside class and formal education. It can significantly lead to deficiencies at acquiring the needed skills and generating proper professional communication competence as well as vocabulary and fluency. (Alonso Alonso, 2023)

The regular exposure English outside class seem to be an important component in language acquisition. According to Sundqvist (2011) the majority of students acquire their non-native language outside the classroom through music, television, internet or other forms of media, he also suggested that Extramural exposure to English and interaction with the language is not initiated by the teacher but by the students themselves and influenced by other people in the community as friends and educational influencers, though it's not an obligation or regarded as systematic homework however it has a positive output. Thornton and Houser (2005) used 3G to have students learn English idioms from videos and they have assumed that students used mobile technology positively. Baran (2007) stated that video blogs contain films, videos and images to express feelings and communicate personal reflection, games are also a strategic tool to enhance English exposure. Godwin-Jones (2014) argues the role of games he stated that most of games designed of commercial reason, entertainment and fun however it has another hidden function which is education.

Extramural English learning is related to extensive listening and reading outside the classroom where students use videos and auditory materials as podcasts, this process should be regular and repeated as stated in Alm (2013).

Other scholars shared different views Barbee (2013) stated that communication natives or non- natives' speakers is another Extramural English (EE) activity because interaction is one of the keys of learning in EFL. Coskun (2017) in his research found out that students

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when doing EE activities are mostly engaged in listening activities rather than reading, writing, and speaking.

The frequency of exposure to English outside the class walls was discussed by many scholars. Low EE affects the language acquisition, vocabulary load and fluency however, the regular exposure through different activities regarded as an effective tool to language learning.

1.7 Conclusion

To conclude English for Medical Purposes in the Algerian context is shaped by multiple challenges especially the low exposure to English outside class and the lack in teachers' training yet they can be eliminated by a set of pedagogical and practical strategies.

Strategies has been developed to meet the students' needs and enhance the language's proficiency, such as using problem-based approach, task-based approach, case study approach, simulation, role play, interactions with native and non-native English users the use of effective technological tools and the Extramural Exposure to English are the key strategies to enhance the language in both academic and professional contexts.

These insights underscore the urgency for Algerian institutions to prioritize EMP through policy-driven reforms and resource development, paving the way for empirical studies to test interventions and boost employability in an internationalized medical field.

Chapter Two:

Methodology and data collection procedures

Methodology And Data Collection Procedures

2.1 Introduction

This chapter is the pillar of the research as introduced in the methodology, the research design and the procedures of data analysis. It describes the different steps used to investigate the learning strategies for Medical English in at medical university of Oran. At first the chapter introduces the research design, approaches, and methods, second, it describes the sample, third, during the data collection two questionnaires were distributed and explained in details about their objectives and procedures, by the end, the chapter shed the light on the data analysis methods employed.

2.2 Research Motives

In order to achieve the main research objectives, we used an adequate methodology that we would have to explain in this part of the work (the choice of the theme and the corpus as well as the context of research. We would concentrate on its specificities as an indicated terms (questionnaires) on which we relied.

2.2.1 Choice of the corpus

According to the observations, teaching EMP needs a lot of bases, and it needs to be more organized and structured, and the learning strategies must be set up.

The research's core focus is to shed the light on techniques to EMP teaching and the various strategies of learning, this study seeks to illuminate the role of each technique, grasping its role and opening the doors to any new teaching and learning technique that may promote EMP as a field of study. It is thus imperative to investigate and explore effective pathways for enhancing EMP pedagogy and fulfil the gap between the theory and the professional context.

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2.3 Research Approaches

Regarding the aspects of the English language teaching and learning a methodological exploration are organized. The researchers according to their problematic they make a systematic quantitative approach to gather the necessary data to serve their research. Data are the facts that can be easily analysed by others.

Creswell (2018) emphasizes the importance of the quantitative approach because it means testing objective theories through examining variables' relationship, it provides precise and numerical data for hypotheses testing empowers the statistics by incorporating a large sample and minimizes the bias in research.

In the language studies the quantitative approach is highly because it discovers the broad principles of language teaching and learning that will be taken across classrooms institutions and learners.

2.3.1 Participants

The participants in this research are 40 students and 30 teachers, in which they were selected to answer the delivered questionnaires. The participants were selected randomly among the students and teachers at medical university of Oran, the population is selected on a random basis, to ensure that everyone got the chance to participate in the research. As is it known all of them are full time teachers (doctors, professors, assistants) in medical university and ESP teachers working in the same university.

In order to decide the appropriate strategies of any investigation, the researcher must choose the participants that represent the sample population so that to serve the research objectives. However, choosing the sample population is crucial. The respondents got an

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influence over the data collected. According to Creswell (2012) the sampling techniques are two: probability sampling and non- probability sampling.

a) The probability sampling: it includes random sampling, stratified random sampling, systematic sampling and cluster sampling, each type provides a specific characteristic which make it hard on the researcher to choose an appropriate type for his study.

- Random sampling: every individual of the population got an equal chance to participate through a random method like lottery for example.
- Stratified random sampling: line every individual of the population then picks randomly every n^{th} person for example.
- Systematic sampling: divide the population into groups then randomly chose to select fairly from each group.
- Cluster: the population is grouped into clusters (example: age), those clusters are random and all of them or one will be studied.

b) Nonprobability sampling: includes Quota sampling, Snowball sampling, purposive sampling, convenience or opportunity sampling.

- **Quota sampling**: making a specific target for sub-group for example 50 men then choose people to fulfil the slot with no randomness.
- **Snowball sampling**: pick a population (starting by a small size) then ask them to involve friends.
- **Purposive sampling**: is to pick people that serves exactly your needs.
- **Convenience or Opportunity sampling**: to do your investigation on the easiest or nearby people as classmates or friends.

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two questionnaires were carried out, knowing that there were two types of participants, active and passive participants.

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➤ **For teachers:**

- ✓ About four teachers did not submit the questionnaire
- ✓ About 26 students answer the questionnaire

➤ **For students:**

- ✓ four students did not submit the questionnaire.
- ✓ 36 students answer to the questionnaire however they did not reply to all the questions.
- ✓ five students did not reply to all questions

Participants have a crucial impact on the research.

2.3.1.1 Researcher's Profile

The researcher is an Algerian master two student who has finalized her studies as an X ray manipulator in the National Institute of Higher Paramedical Training, Sidi Bel Abbes (INFSP), but not yet completed her studies in the English language option; "didactics and applied linguistics" at the foreign languages department at the university of Ain Temouchent, the researcher serves as a guideline, she guides the participants, gives a simpler explanations and conducting them in the context

2.3.1.2 Learners' Profile

A sample of 40 students (interns, externs and residents) from medical university of Oran has been assigned, they belong to the age group between 19 and 29 years old. They were baccalaureate holders from the experiential sciences, mathematics and technical mathematics fields, the medical students take their lectures in the amphitheatres; they are about 250 students distributed into two sections, according to the alphabetical order. All

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the students took their general English courses from the first year of the middle school, they have passed their baccalaureate, have some modules using the English language as a medium and still having their ESP courses at the university.

The researcher chooses this category of students because they have an experience in the study of ESP, and who have been studying English by the same teachers, the students study this module to use it to communicate in the scientific manifestations, seminars and in their research since most of documents and article are written in English and to use the English language as a written form in writing article and abstracts. English for Specific Purposes is learned once a week for an hour and a half.

According to the Algerian setting it is well known that there is no formal syllabus to teach EMP, the teachers rely on the scientific documents, medical texts and videos to teach the required skills according to the context of the field. Though most the participants have agreed that studying English is important for their future career, they have different levels of English, where the teachers play a crucial role at adapting the teaching styles and technics according to the learners needs and interests.

2.3.1.3 Teachers' profile

The teachers represent the pillars at any situation of teaching. The EMP teachers differ from the ones who teach general English, usually they show a sense adaptability according to the subject matter where they modify the methods and the teaching techniques depending on so many factors, they are curious about the students' fields, they are confident in their roles and cooperatives with the subject specialists, they are characterized by their commitment and their prior experience; however, their lack of experience may create a huge gap. The teachers may face many challenges especially at the beginning of their career since there's no formal syllabus.

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This study was engaged with 30 teachers, who have practiced as teachers in the medical department.

- Four EMP practitioners are a part time teachers, coming from the English department Of Mohamed Ben Ahmed Oran 2 (Ex-E-Senia)
- 26 teachers are subject specialists.

2.4 Research instruments

The research methodology in this study used the quantitative method. The basic instrument adopted for the research is two questionnaires: one for the teachers and one for the students.

The teachers' questionnaire has been designed to give an overview about the different teaching techniques used within the medical English courses and to extract the main challenges in which an EMP teacher can face, in the other hand the students' questionnaire has been designed to gather data about the main learning strategies, to understand their needs, difficulties and perspectives concerning EMP learning styles.

- Setting: refers to the space and times of the two frames.
- Place: refers to the formal place that is the classroom.

The question-based study was conducted with 40 students of medical students and 30 teachers from the department of medicine at Oran University. They were selected in this study because they have an experience as an EMP learners and teachers.

- **Spatial:** the study has taken part in the classroom and out (through online distribution).

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- ✓ Students' questionnaire → in and out the classroom → formal and informal space.
- ✓ Teachers' questionnaire → out the classroom → informal space.
- **Temporal:** in order to collect data from the participants, time was calculated regarding the instruments used and the participants' nature.

The students' questionnaire has taken two sessions to collect the data in the classroom and some of them have been replied through an online site.

The teachers' questionnaire was delivered in the classroom and through networking sites, most of them replied to the questionnaire however they took so much time.

2.4.1 Questionnaire

According to Singh (2006) a questionnaire is a systematic and an efficient tool for collecting data from large respondents in a standardized way. It enables the researcher to collect a standardized, comparable, data or attitudes. Babbie (2016) defined the questionnaire as document that contains questions, it is primarily used in a survey research but also in experiments a field studies and the good questions must be relevant, clear and fit for both statistical and meaningful analysis.

The questionnaire builds up to serve purposeful explorations. For example, the WH questions, open-ended questions and writing are one purpose however closed-ended got another dimension to get individuals' strategies. (Dikilitaş and Bostancıoğlu, 2019).

According to Rabbie (2016) there are seven main types of questionnaires scale, ranking, complex grid, quantity, list of MCQ and open-ended.

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- Close-ended questions are a type of questions helps in gaining a quantitative data. This type is very efficient since the respondents respond at ease and the researcher analyses comfortably. Zohrabi (2013).
- Open-ended questions give more liberty to respond openly where the respondents reply without limited options however they use their written language. This type is unstructured and provides a more qualitative data.
- The third category is a mixture of close-ended questions and open-ended questions where the researcher can benefit from both the qualitative and the quantitative.

The participants' biases and errors can affect the quality of the collected data, consequently it will lead to a lack of interpretation of each information.

Our questionnaire is precise with a much-targeted questions, addressing both the students and the teachers; this technique is very efficient in matter of time and in term of achieving both the quantitative and the qualitative goals.

The teachers' questionnaire is formed of 16 questions and the students' questionnaire is formed of 19 questions. We have opted for different kinds of questions in our questionnaire:

- Open questions: to gather a personalized and diverse answers.
- Closed questions: such as:
 - ✓ Multiple choice: to obtain a precise answer.
 - ✓ Questions in which several answers are possible.

2.4.1.1 Teachers' Questionnaire Objectives

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The frequent questionnaire was delivered to 30 teachers who teach in the medical department of Oran University. The teachers' questionnaire contains 16 questions.

- ✓ Question 01 and 02 determine how translation and medical terminology are taught in the classroom.
- ✓ Question 03 emphasizes the role of simulations as an EMP teaching technique.
- ✓ Question 04 emphasizes the importance of case-based learning as a teaching strategy.
- ✓ Question 05 and 06 and 07 investigate the different materials used in the teaching process and how much does it adapt to the students' levels and needs.
- ✓ Question 08 clarifies the most required skill to learn medical English.
- ✓ Question 09 the objective of this question was to determine the role of the teacher's feedback in the empowerment of EMP teaching.
- ✓ Question 10 helps us to determine the biggest challenges faced by the EPM teacher that may hinders the learning process.
- ✓ Question 11 shows the difficulty of the medical terminology and how problematic it can be.
- ✓ Question 12 highlights the importance of collaboration with the subject-matter teachers as a technique to EMP teaching.
- ✓ Question 13 and 14 evaluate the utility of the current teaching techniques and their adaptations to the students' needs and requires.
- ✓ Question 15 measures the necessity of teaching EMP to medical professionals

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- ✓ Question 16 is an open-ended question that aims to gather the different views about the modern strategic changes within the EMP classroom.

2.4.1.2 Students' Questionnaire Objectives

The learners' questionnaire was to includes 19 questions. It was distributed among 40 students at the medical University of Oran.

- ✓ Question 01 measures the utility of using real examples when learning medical vocabulary.
- ✓ Question 02, 03, 04 and 05 investigate the most common methods, resources and materials used in the classroom.
- ✓ Question 06 and 07 help us to discover the students' preferences when it comes to the most effective strategies to EMP learning as well as the preferred environment.
- ✓ Question 08 and 10 measure the importance of the speaking activities and its frequency in the classroom.
- ✓ Question 09 is set to determine the importance of simulations in the different learning activities.
- ✓ Question 11, 12 and 13 are the questions in which we wanted to discover the skills that are most/least improved in the classroom.
- ✓ Question 15 measures the effectivity of the teaching techniques.
- ✓ Question 16 is an open-ended question that requires justification in order to know if the EMP classes prepare a real professional communicators or it's far to serve this objective.

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- ✓ Question 17 allowed us to determine if the teaching methods serve the students' needs.
- ✓ Question 18 investigates what language is used during OSCE.
- ✓ Question 19 is an open-ended question to gather the different views about the difficulties faced by the students and their probable suggestions.

2.5 Data Analysis Procedures

Analysing data is a systematic process that needs key steps to be followed. The first step is the identification, where the research questions must be established. The second step is the data collection from various sources such as the questionnaires. In the third phase we clean any duplicate data so that it will be ready from analysing. In the next phase the data will be analysed, trying to support our research questions. By the end, the results will be interpreted. It is crucial to follow these stages to ensure the quality of the research.

2.5.1 Quantitative Data Analysis

The quantitative data analysis deals with the mathematical operations and statistics. These statistics refer to and interpret the collected data into ratios and intervals which the important factors to the application of this type of analysis.

In this study the researcher tried to give clear directions to the readers by providing statistics, taking into consideration the participants' opinions toward EMP.

Additionally, the researcher used the computer programmes such as google forms to give the variability and clarify the measures. The statistics take the sort of graphical options (tables, figures...), the use of charts and diagrams made the analysis easier for the reader especially if they are non-experts.

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- The bar graphs demonstrated the nominal and the ordinal variables.
- The pie chart exhibited the values of data as a section of the total cases associated with percentages.

2.6 Conclusion

Chapter two has demonstrated the research approaches and designs as well as the context of investigations the setting, the sample population that introduced in the participants, the instruments (the two questionnaires) and the data analysis procedure used in this research. The numerical statistics were analysed via a quantitative method. This chapter outlined the research methodology used to explore the different teaching and learnings strategies used in EMP classes.

Chapter Three:

**Data analysis, suggestions
and recommendations**

Data Analysis, Suggestions And Recommendations

3.1 Introduction

Chapter three is structured into three main parts, data analysis, interpretation of findings and recommendations. It has started with the analysis of the data collected through a quantitative method. The data collected through the two questionnaires will be presented using visual tools as graphs and pie charts to illustrate the key trends. The objective of this chapter is to synthesis the numerical data with a narrative responses to make it easier for the readers to understand even if they are not experts. The chapter concludes with a set of recommendations drawn directly from the findings, which aim to broaden the horizons to EMP learning strategies.

3.2 Data description

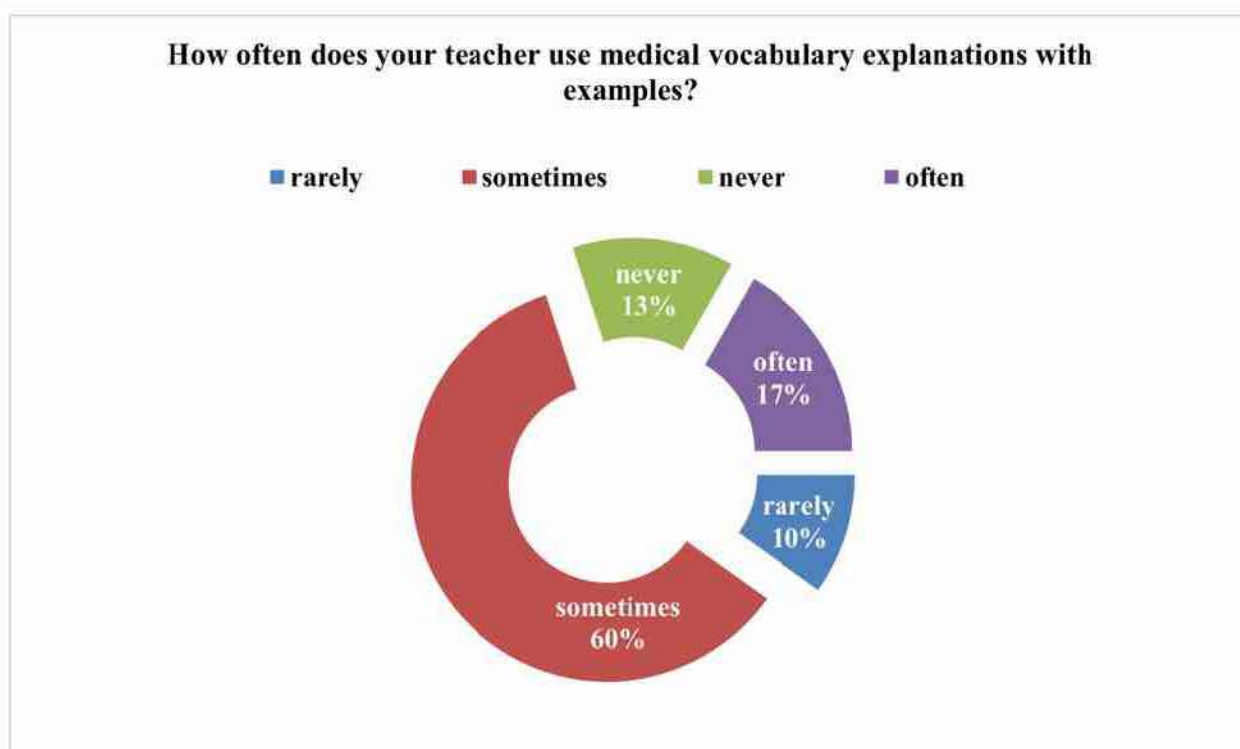
This part aims to present and explain the aspects of the data gathered. This step is crucial in grasping the entire form of the data collected from the participants before moving to the interpretation.

3.2.1 Data description of the students' questionnaire

This segment presents the analysis of the quantitative gathered data through the students' questionnaire. Our questionnaire was designed to explore the different learning strategies and styles used in EMP classrooms as well as the students' main challenges and the possible solutions. The results have been organized and analysed using descriptive statistics with the findings illustrated in bar charts, pie charts, tables and graphs. This analysis serves as a key foundation to for determining the various strategies used in EMP learning and the possible future insights.

Question N°01

This question is designed to evaluate the frequency of using the medical vocabulary with explanation by teachers in classroom to check if learners use context and real-life



situations to deepen and broaden their vocabulary knowledge.

Pie-chart 1 [3.1]: The use of examples to explain medical vocabulary

As it is shown in the pie chart [3.1], about 60% of the participants declare that they acquire medical vocabulary using real examples, 25% of the students think that it's rare, 13.9% of the students stated that they often learn through examples, meanwhile 11.1% reported the non-use of examples in the classroom.

Question N°02+04+06

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These questions explore the different methods, activities and strategies used in the classrooms, aiming to investigate the students' preferences and use it as a guide to curriculum design.

Table 2 [3.1]: The methods, activities and strategies used in EMP classrooms

	Methods	Strategies	Activities
Lectures 72.2%	Individual work 16.7%	Memorization of medical terms 22.2%	
Group work 13.9%	Group work 16.7%	Reading medical texts 27.7%	
Role play 2.8%	Listening to recorded lectures 5.6%	Case studies and real application 58.3%	
Learning through tasks 16.7 %	Watching medical videos 61.1 %	Translation exercises 2.8%	
Multimedia presentations 25%			

Question N°03+05

These questions aim to investigate the authentic materials and tools used in the EMP classrooms and the students' frequency in using medical dictionaries and online resources to understand how they deal with the complexity of medical English. The answers will give a hint about the different materials used aiming to measure how those materials engage the

Data Analysis, Suggestions And Recommendations

students in the process of learning and to assess how learners regulate their own learning and so that their learning autonomy.

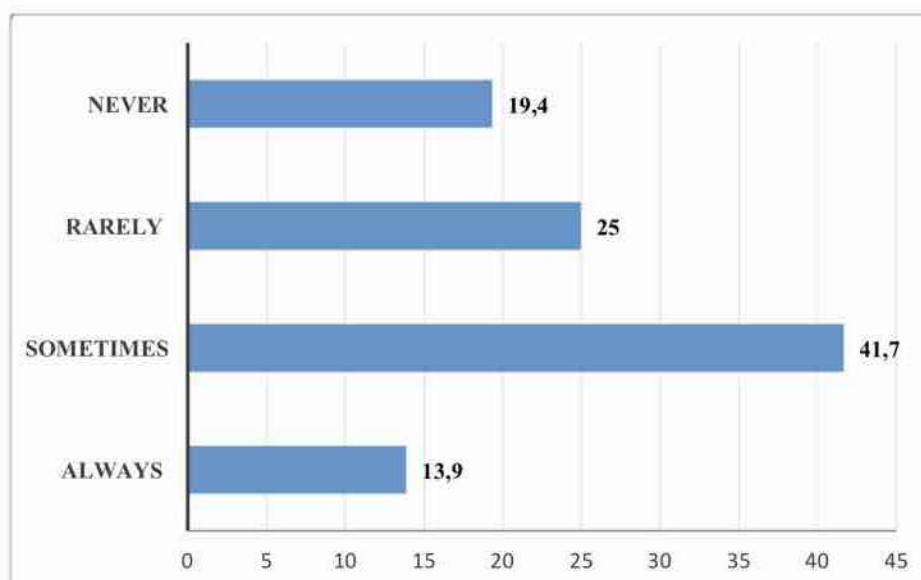
Table 3 [3.2]: The Authentic Materials Used In The EMP Classrooms And The Frequency Of Using Dictionaries

Table 3 [3.2]: The authentic materials used in the EMP classrooms and the frequency of

Materials	Authentic materials	Dictionaries (frequency of use)
Medical article	69.4%	Always27.8%
Reports	25%	Sometimes38.9%
Simulations	25%	Rarely25%
Videos		Never8.3%
using dictionaries	often	17.8%

Question N°7

The following question assessed the frequency of practicing medical English outside the classroom doors to understand how much English learners acquire in an informal setting, to



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measure the real exposure and assess their motivation level.

Graph 1 [3.1]: The informal practice of medical English

The bar-graph indicates that 41.7 % of the participants practice medical English in an informal setting, 13 % always do, a minority of 25 % use rarely while the remaining of the participants (19.4 %) rely only on the formal education.

Question N°08+10

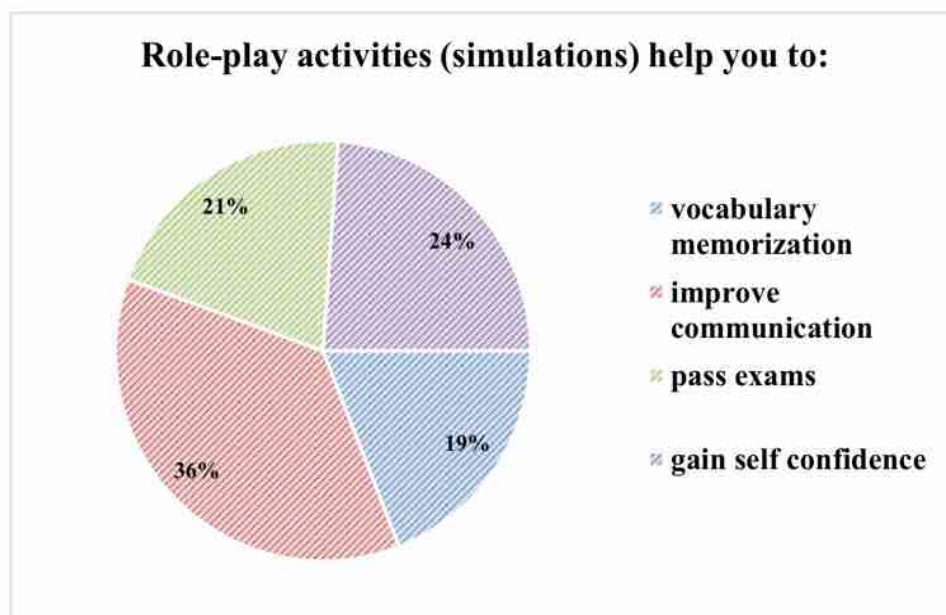
This question examines the rate of utilizing speaking activities in the classroom and how the students speak it to assess how practice develops the communicative competence of the students, measure skills development and to evaluate their level trying to extract the appropriate learning strategies according to their bases.

Table 4 [3.3]: The rate of using speaking activity in class and the students speaking competency

Rate of speaking skill	Students' competency in speaking
Frequently 8.3 %	Very comfortable 5.6 %
Sometimes 36.1 %	Very uncomfortable 5.6 %
Rarely 36.1 %	Comfortable 55.6 %
Never 19.4 %	Uncomfortable 33.5 %

Question N°09

This question aims the participants' goals of using simulations as a learning strategy to examine the students' motivation and awareness behind the strategy



Pie-chart 2 [3.2]: The goal of using simulation as a learning strategy

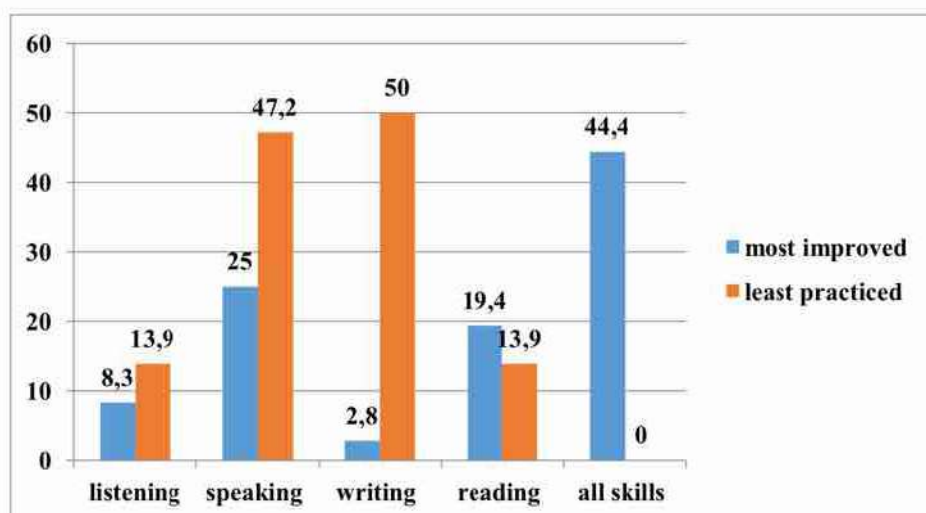
The pie-chart reveal that 36 % of the learners rely on simulation to improve their communicative competence, 24% use it a shield to self-confidence, 19 % reported that it's useful to vocabulary memorization in contrast 21% rely on simulation to pass exams only.

Question N°11+12

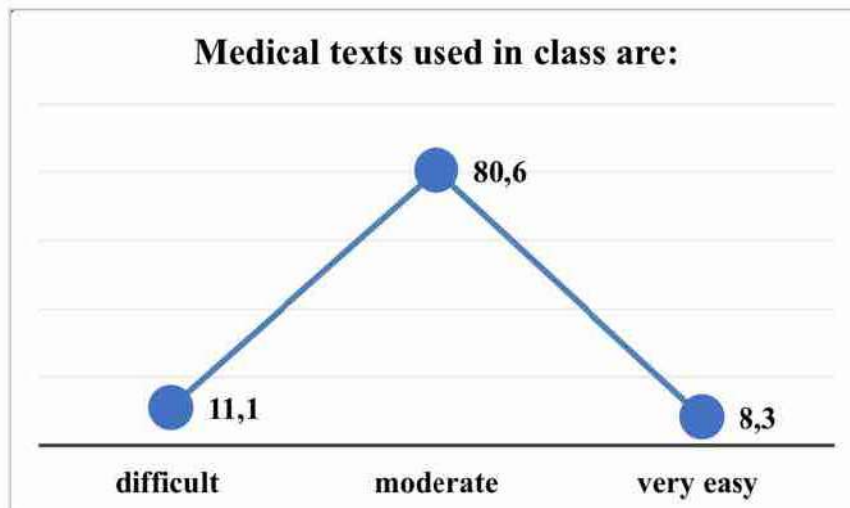
These two questions explore the aspect of the Algerian skills that are most and least improved in the classroom. The identification of these areas is crucial for understanding where targeted support and improvement efforts should be directed.

These questions allowed multiple responses enabling the participants to select more than one aspect, the results indicate that all skills are improved within EMP classrooms. Reading is the most improved skill, however the productive skills as speaking and writing are least practiced.

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Graph 2 [3.2]: The aspects of the English language skills most and least improved in the classroom



Graph 3 [3.3]: The suitability of reading material used in EMP classrooms

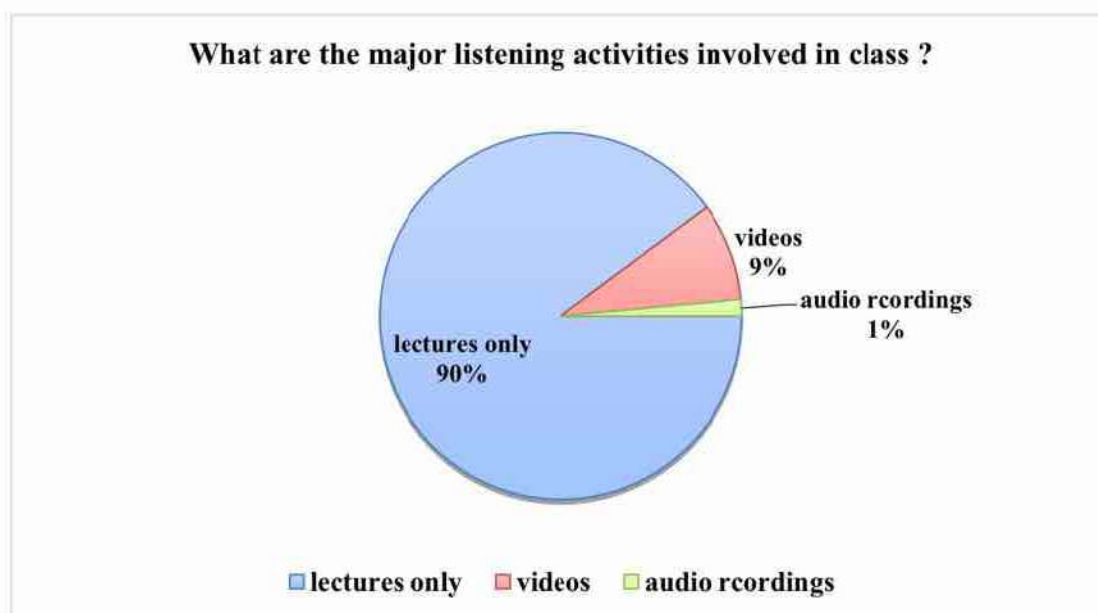
Question N°1 This question seeks to evaluate the degree of difficulty of medical texts used in the classrooms to measure the students' comprehension and examine the suitability of the reading materials according to their level.

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According to the graph above many of the students (80.6%) find the medical texts moderate, 11.1% find it difficult to read and understand while the minority believe that it's very easy to comprehend.

Question N°14

This question explores the listen activities involved in the classrooms to assess how



Pie-chart 3 [3.3]: Types of classroom listening activities

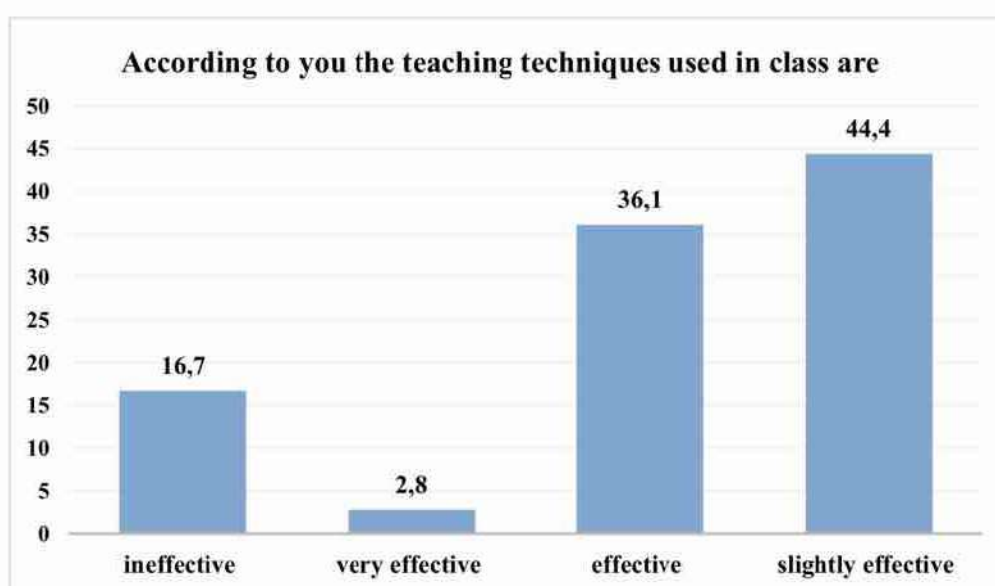
listening skills are developed classroom practice and link it to the real-world needs.

The pie-chart above demonstrates that most of the participants (90%) reported that they study through listening to lectures only, this followed by 9% who stated that they use videos as a listening material, only 1% rely on audio recordings.

Question N°15

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This question evaluates the suitability of the different teaching techniques used in the classroom to examine the fit between the teaching techniques, the context and the students' needs and interests.



Graph 4 [3.4]: The effectiveness of teaching techniques

The bar-graph above shows that the largest portion of the participants (44.4%) reported that the teaching techniques used in the classroom are slightly effective, followed by 36.1% of the participants who stated its effectiveness, meanwhile 16.7 % of the participants find it ineffective and a minority of 2.8 % who marked its high effectiveness.

Question N°16

In response to the open-ended question “does medical English classes prepare you for professional communication? justify?”, the participants were invited to share their opinions on

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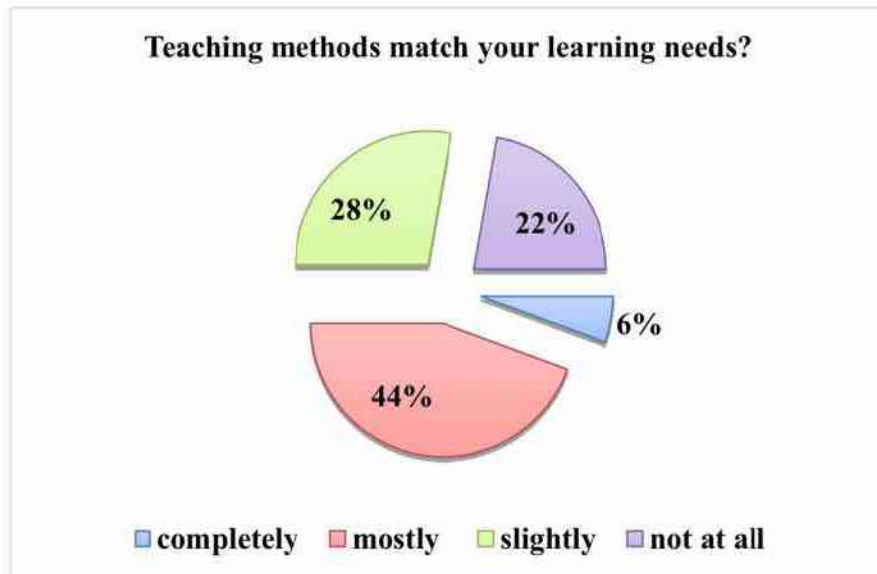
the matter. Their responses were generally specific and focused, highlighting two key themes which are presented in the table below.

Table 5 [3.4]: Insights on English class's readiness to improve the professional communication

Themes	Students' perspectives
EMP classes capacity to boost professional communication	Most of the students think that EMP classes are efficient and succeeded to improve their professional communication. Ex:” <i>Medical English classes help prepare students for professional communication by developing their medical vocabulary and improving their ability to discuss clinical cases, explain medical conditions, and communicate effectively with colleagues in academic and clinical settings.</i>”
The unreadiness of EMP classes	The participants pointed that EMP classes are ineffective and needs complementary practice. Ex: “<i>No it gives no place for communication.</i>” Ex: <i>Big NO, there is no training.</i>”

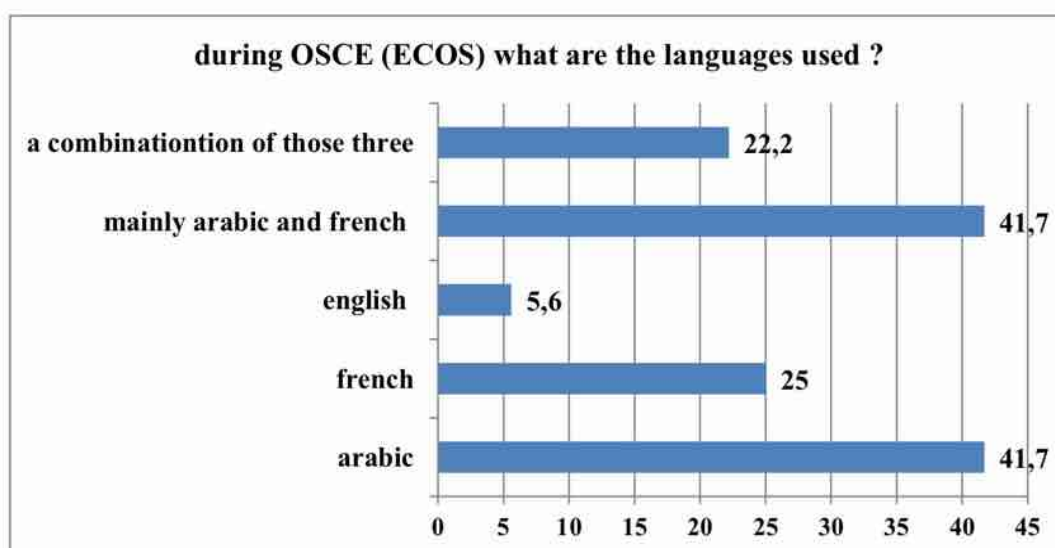
Question N°17

This question explores the suitability of the teaching methods with the students' needs, check out the relevance of the methods and guide the process of selection and adaptation according to the students' interests, level and needs



Pie-chart 4 [3.4]: The suitability of the teaching methods to students' needs

The results presented in the pie-chart shows that the majority of the participants (44 %) think that the teaching methods match their needs and levels, 28% rated it as slightly suitable, 22% selected not at all, in contrast only 6 % find it as completely suitable.



Graph 5 [3.5]: The languages used during OSCE

Question N°18

According to the results presented in the graph above 41.7% use Arabic in OSCE, followed by 41.7% for both Arabic and French, 25% was selected for French only, meanwhile 22.2% for a combination of the three languages, a minority of 5.6% selected English.

Question N°19

In response to the open-ended question “does medical English classes prepare you for professional communication? Justify?” the participants were invited to share their opinions on the matter. Their responses were generally specific and focused, highlighting some key themes which are presented in the table below. This question explores the relevance of medical English classes for career readiness.

Table 6 [3.5]: The difficulties faced by the students and the suggested improvements

Themes	Students' perspectives
The excessive use of Arabic and French	The participants pointed that excessive use of Arabic and French Represents a barrier to learning English.

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	Ex: The main obstacle in my opinion is that most of our teachers mostly use medical French even talking with patients
Short-term exposure to English and limited resources	The participants believe that the limited resources and the short-term exposure to medical English are the main obstacles. Ex: The main difficulties are medical terminology and limited practice
Lack of real-life situations and actual communicative tasks	The lack of practice in real life situations is one of the reasons behind student's failure at medical English. Ex: "limited speaking practice. »
Lack of well-trained teachers	The lack of well-trained teachers and experts in the field is a direct cause to English difficulty. Ex: We haven't a competent teacher this is the biggest difficult."
The incorporation of real-life scenarios as a learning strategy	According to the participants incorporating real life scenarios as a strategy to learning EMP may improve the students' level. Ex: "Suggest incorporating more role-playing activities and interactive simulations to improve our speaking skills."
Curriculum design and adapted program	According to the students an adapted curriculum is a solution to their difficulties. Ex: "for better improvement i think we have to integrate some medical English lessons to the program."

3.2.2 Data description of the teachers' questionnaire

This segment presents the analysis of the quantitative gathered data through the teachers' questionnaire. Our questionnaire was designed to explore the different teaching techniques and styles used in EMP classrooms as well as the teachers' main challenges and recommendations. The results has been organized the analysed using descriptive statistics

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with the findings illustrated in bar charts, pie charts, tables and graphs. This analysis serves as a key foundation to for determining the various strategies used in EMP learning and the possible future insights.

Question N°01+02

Question one and two evaluate the frequency of teaching medical terminology explicitly among teachers and the way of doing so, to examine the exposure to medical English and to reveal hidden curriculum.

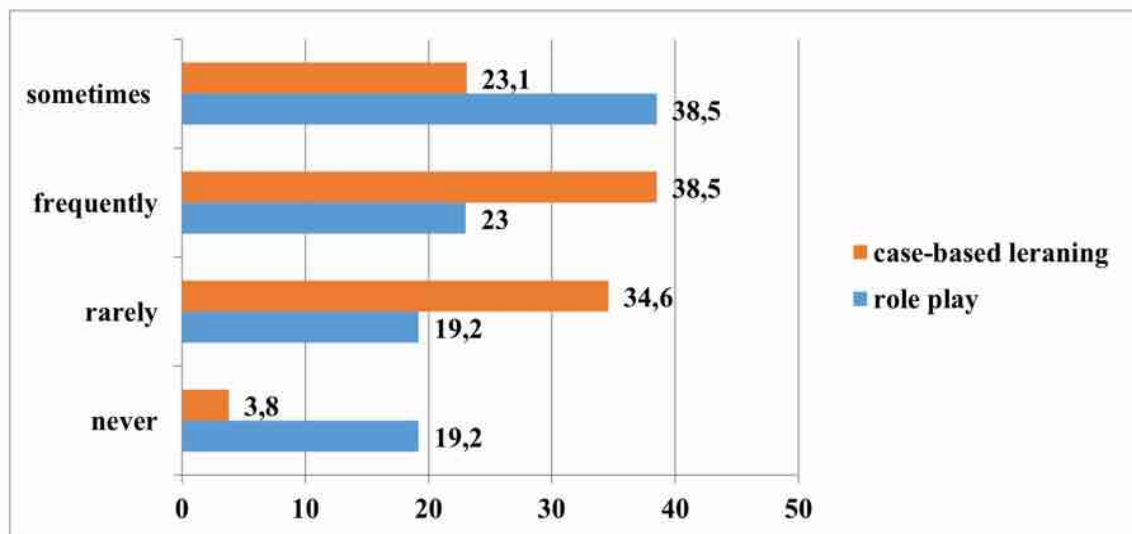
Table 7 [3.6]: The frequency and the way of teaching medical terminology explicitly

Question N°03+04

The frequency	The way
Always 11.5%	Students' discovery 10%
Sometimes 42.3 %	Translation only 23%
Rarely 18 %	Memorization list 17%
Often 26.9 %	Definitions and examples 50%

These questions evaluate the frequency of using role play activities and case-based learning as teaching techniques among teachers to check out if the teachers provide the students with realistic communicative practices to fulfil the gap between classroom and real life and to measure the authenticity.

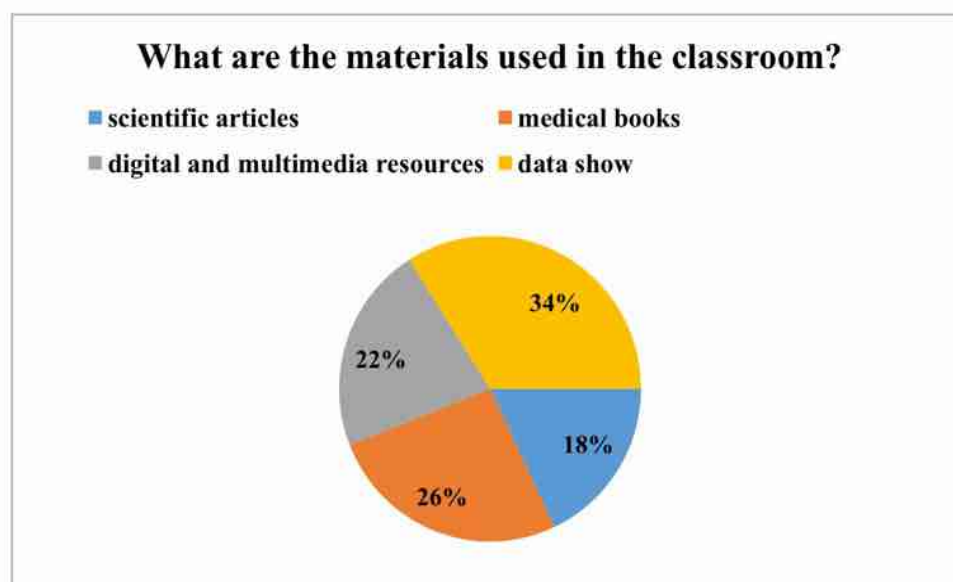
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The bar-graph above show that 38.5 % of the respondents sometimes rely on simulations as an authentic technique in their classes, 21.1 % respond with frequently, 19.2 % of the participants have never use it, meanwhile 1.2 % reported using it rarely. In contrast a portion of 38.4 % of the participants reported a regular use of case-based learning, 34.6 % use it occasionally, 23.1 % stated that it's a core teaching strategy, meanwhile only 3.8 % of the teachers have never use it.

Question N°05+06

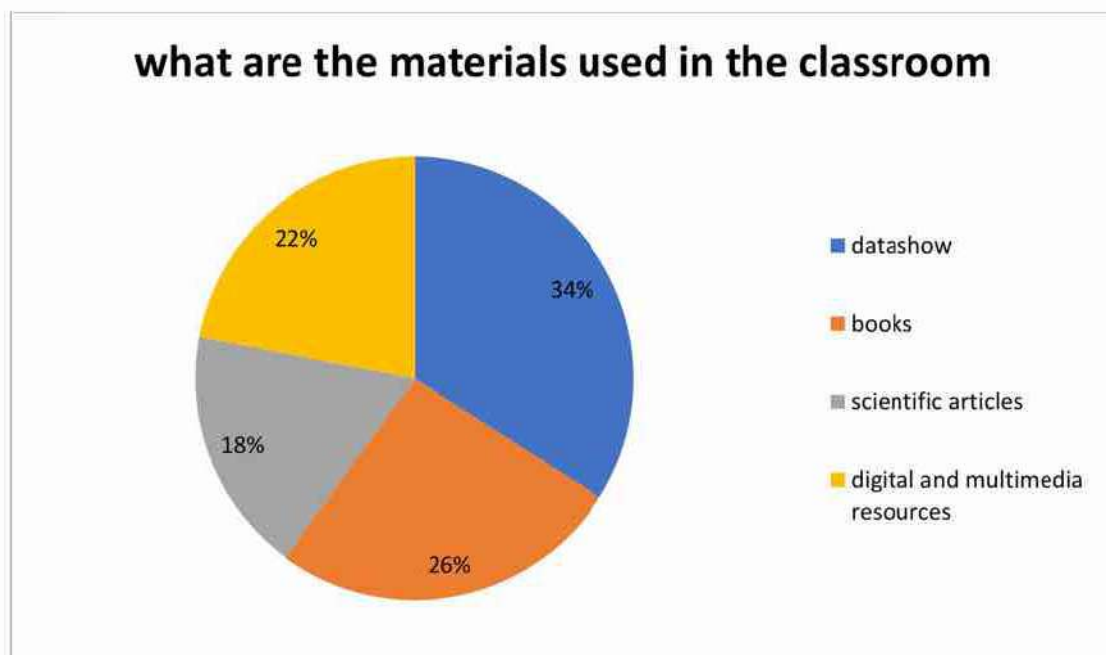
Questions five and six seek to determine the various materials used in the classroom and to examine the frequency of using audio-visual aids to gather the participants' opinions about accessibility and the integration of technology and digital resources in the teaching process, in



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order to check the input quality and the relevance of these materials.

The question allowed multiple choice enabling participants to select more than one option, the results indicate that 65.4 % of the participants use data shows as a teaching material, 50 % rely on traditional resources as medical and scientific books, 34.6 use scientific articles, meanwhile 42.3 % have allow more access to technology as digital and multimedia resources.



Pie-chart 5 [3.5]: The materials used in the classroom

Question N°07+13

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These questions seek to assess the adaptability of the teaching materials to the students' language level and needs in order to check if the materials and the activities can be modified to fit the learners' level and needs.

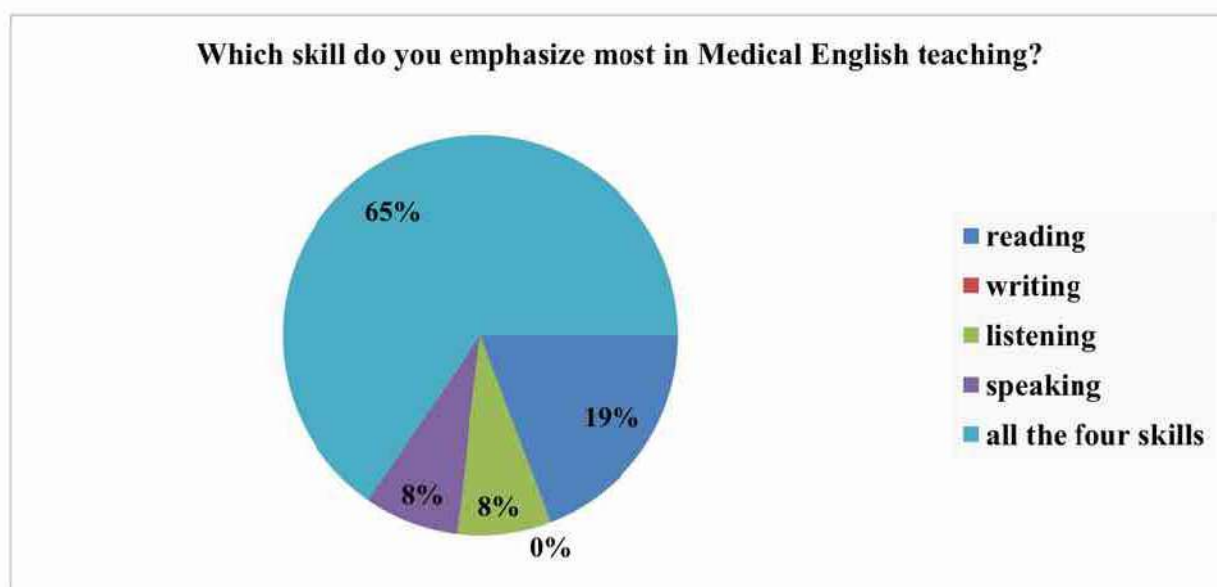
Table 8 [3.7]: The adaptability of the teaching techniques and materials to the students'

Adaptability to the students' level	Suitability to the students' needs
Yes 46.2 %	Strongly agree 3.8 %
No 3.8 %	Strongly disagree 0 %
Sometimes 50 %	Agree 42.3 %
	Disagree 53.8 %

level and needs

Question N°08

The question aims to examine which skill is the emphasized in the EMP classrooms according to teachers in orders to discover the skill' imbalances and the students' weak areas.



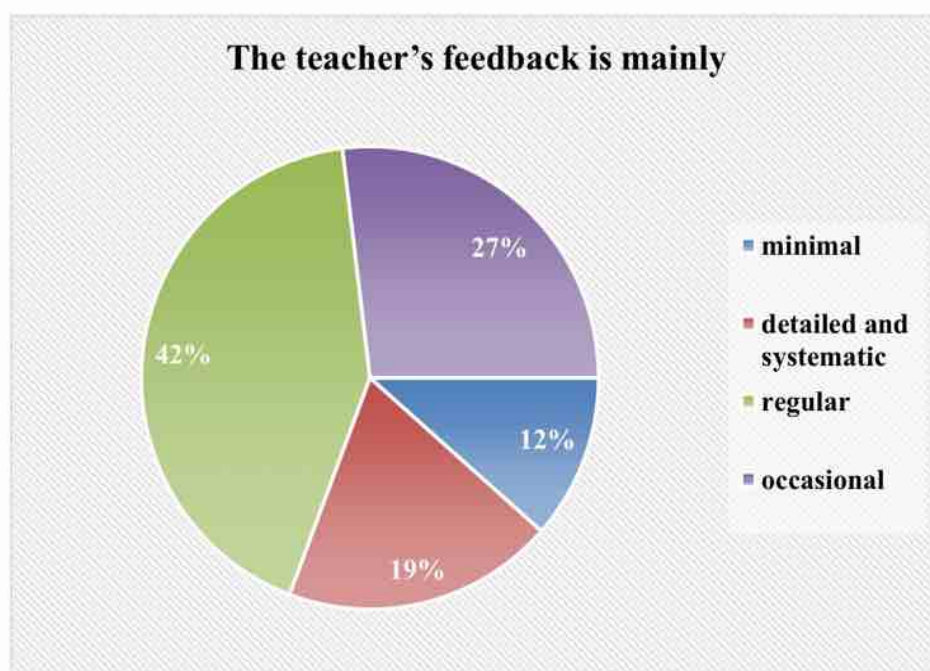
Pie-chart 6 [3.6]: The skill emphasized on in teaching medical English

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According to the pie-chart most of the teachers (65 %) believe that there is balance between all language skills, 19 % of the participants think that reading is the most emphasized skill followed by listening and speaking (8 %) while writing is neglected.

Question N°09

This question aims to investigate the teachers' feedback to evaluate if the learners are



getting enough information and guidance that helps them improve.

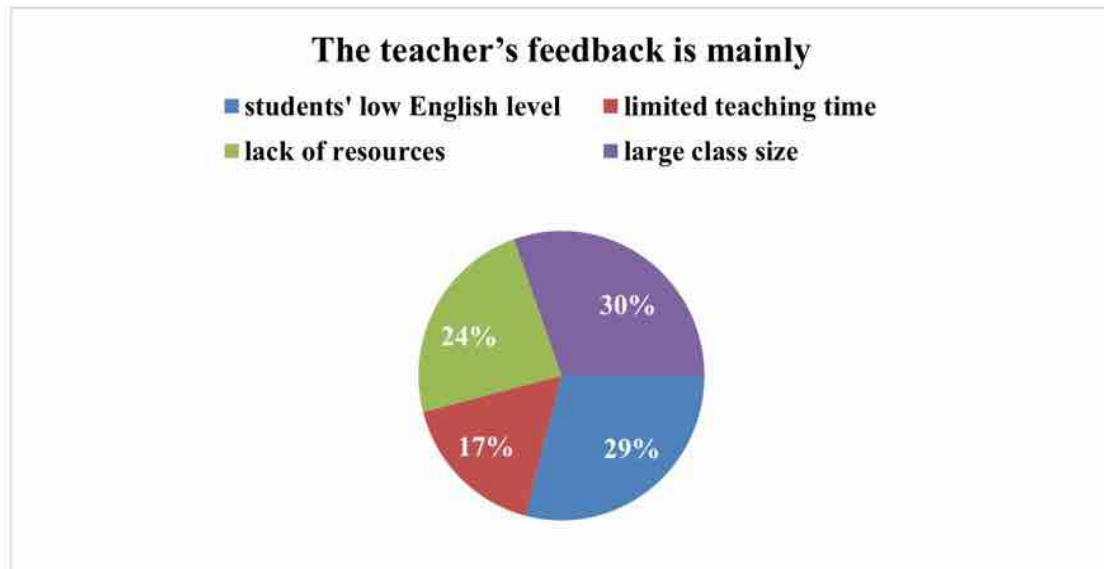
Pie-chart 7 [3.7]: Teachers' feedback

The results introduced in the graph indicate a regular teachers' feedback selected by 42 % of the participants, followed by occasional feedback chosen by 27 % of the teachers, additionally 19 % pointed that the teachers' feedback is regular and systematic, moreover 12 % find it minimal and not sufficient.

Question N° 10

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The following question examine the main challenges that a teacher may face in his career in order to shed the light on the lacks and the gaps trying to improve them.

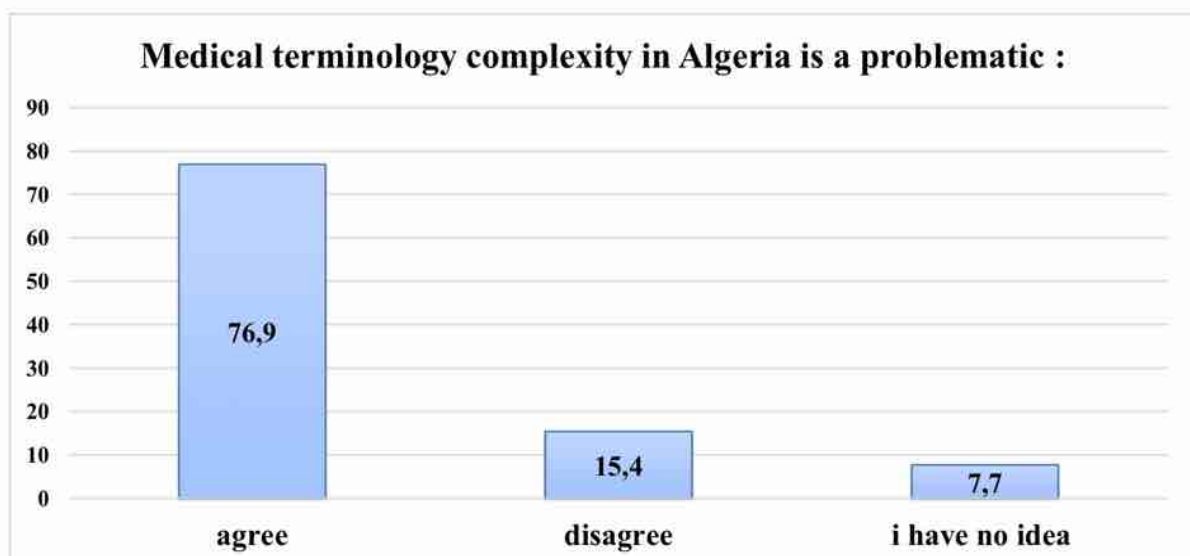


Pie-chart 8 [3.8]: The challenges faced by the teachers

The graph reveals that the students' low English level is one of the challenges that a teachers may face emphasized by 30 % of the teachers, followed by large class size (29 %), while 24 % indicated challenges in lack of resources however 17 % find difficulties when it comes to limited teaching time.

Question N°11

This question aims to gather the students' point of views about the medical terminology



Graph 7 [3.7]: Opinions of medical jargon complexity in Algeria

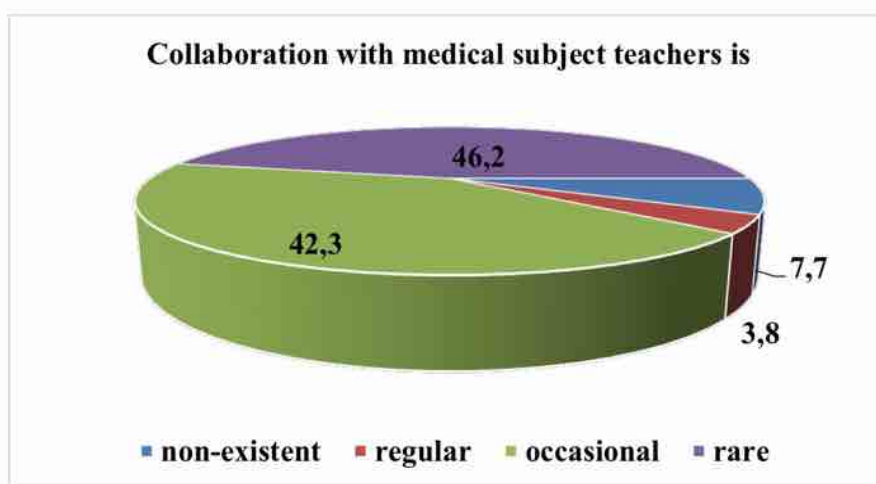
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complexity in Algeria in order to find the pathway to curriculum design.

The bar-graph indicates that most of the teachers (76.9%) agree on notion that medical jargon is complex and hard, in contrast 15.4 % disagree with the idea while a minority of 7.7 % had no idea about it.

Question N°12

The following question studies the frequency of collaboration with medical subject teachers to broaden the expertise in the field and develop the soft skills.



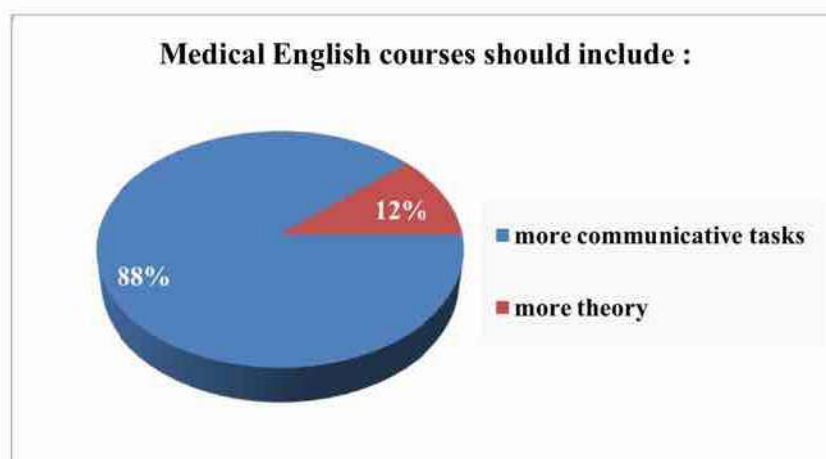
Pie-chart 9 [3.9]: The collaboration frequency with medical subject teachers

According to the pie chart 46.2 % of the teachers pointed that the collaboration is rare, 42.3% stated that it's occasional, 7.7 % selected non-existent while 3.8 % say its regular.

Question N°14

The following question aims to gauge the participants' opinions about the content of medical English courses to align the curriculum with learners' needs, detect the gaps future expectations

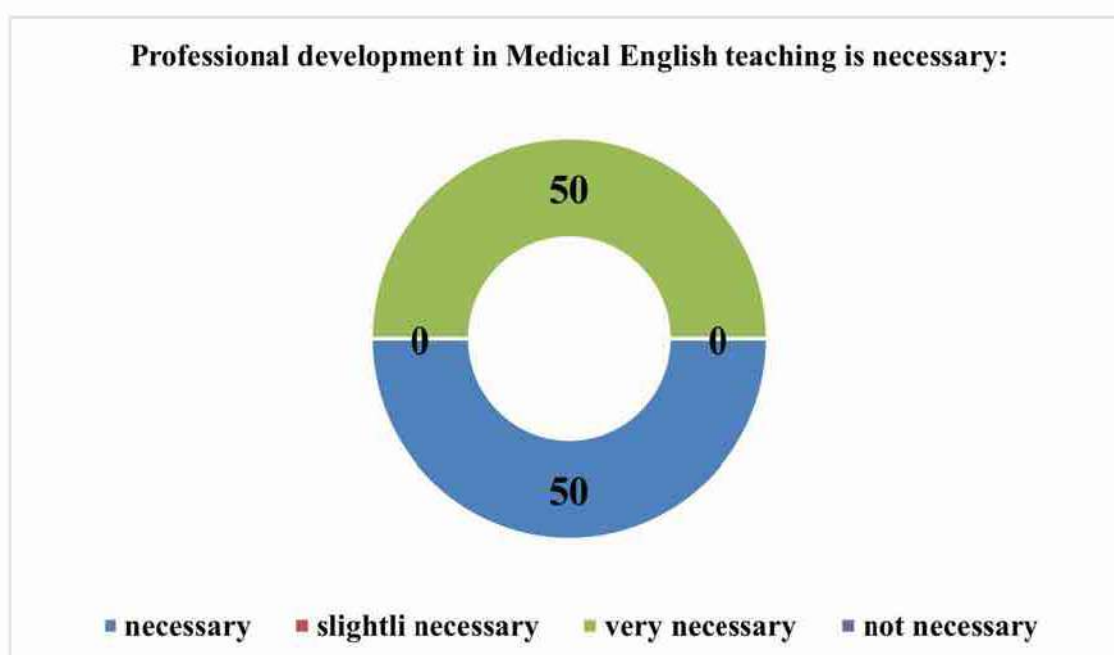
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Pie-chart 10 [3.10]: Needs analysis to course design

The pie-chart reveals that the majority (88 %) believe that medical English courses needs more communicative tasks, meanwhile a minority of 12 % think that they need more theoretical support.

Question N°15: This question examines the necessity of the professional development in medical English teaching in order to update the skills, boost the teachers' motivation and



Pie-chart 11 [3.11]: The necessity of professional development in teaching EMP

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improve the learning outcomes.

The results presented in the pie-chart indicate that half of the participants believe that's very necessary while the other half think that it's necessary however none of the participants pointed its unnecessary.

Question N°16

In response to the open-ended question “what are the strategic changes that you may do within medical English classroom?” the participants were asked to share their opinions on the changes that they may do in the EMP classrooms. This question aims to explore the main problems, open the doors to innovation and to grasp the participants' intentions to improve the process of teaching.

Table 9 [3.8]: Teachers' insights on the strategic changes within EMP classrooms

Themes	Teacher's perspectives
Communication and practical use of English	Most of the teacher's emphasizes the use of real-life case studies, role plays and more communicative tasks. Ex: <i>“A Medical English classroom can be improved by shifting from grammar-only teaching to practical communication through role-plays, case-based learning, and authentic medical materials.”</i> Ex: <i>“instead of focusing only on grammar rules, design real-life medical tasks...”</i>
Needs analysis and adapting content	The participants pointed to examine the students' needs and adapt the required teaching materials and content. Ex: <i>“tailoring lessons to different medical specialties strengthens...”</i>

Ex: “*Adapting content more closely to students’ proficiency levels...*”

Technology integration the use of digital tools	The teachers’ highlighted the importance of technology integration and its role in shaping the students’ language proficiency. Ex:” <i>use technology for interactive learning...</i> ”
The importance of E-teaching and, professional development and training	The participants suggested the use of E-learning and encouraged professional training and development. Ex:” <i>Include more audio-visual learning.</i> ”
Curriculum adaptation	The teachers emphasize the importance of tailoring a curriculum that adapt to the students’ needs and to the local medical needs. Ex: “ <i>focus on curriculum adaptation, practical activities, and technology integration. Tailor the curriculum to local medical needs...</i> ”

3.3 Results / Findings interpretation

3.3.1 Interpretation of students’ questionnaire data

This section will discuss the data collected from the students’ questionnaire that was prepared and distributed for the purpose of gathering information about the different learning strategies in the EMP classrooms. The aim behind this questionnaire is to get data from different medical students from different stages of their studies and different, different English proficiency levels, and different exposure to English during their formation. Through the analysis of the participants’ responses the main goal is to identify the main learning strategies,

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their significance, the students' lacks and needs in order to grasp the gaps and pave the way to better improvements when it comes to EMP content and curriculum.

As it was established the chapter 1, the students have done all their medical studies and training in French due to the history of the Algerian country. As French dominates the field of medicine in Algeria it hinders both the language' communications and comprehension in the academic and the professional context, however the dominance of the French language was not the only reason that challenges medical students, the teachers' reliance on their mother tongue language (Arabic) was also a problematic as stated by the students which influenced them negatively, decreases their confidence and creates limitations when it comes to practicing English.

According to the participants' responses there's an imbalance in learning and practicing the language's skills. listening and reading are moderately practiced however writing and speaking are almost neglected, due to several reasons the French-centred education as mentioned previously, the difficulty of medical terminology, their unfamiliarity with the new terms, lack of confidence, the absence of the regular communication in the real-world and the most important is the lack of appropriate learning strategies, methods and materials.

Needs analysis represents a gap in EMP classes. The research shows a clear divide of students' perspectives, some of them reported that their needs are respected and considered EMP classes as way to professionalism, a good initiation to strengthen their vocabulary, to improve their ability to discuss clinical cases, explain medical conditions, and communicate effectively with colleagues in academic and clinical settings. In contrast to others who believed that it is neglected because they see that it lacks the practical side and still needs some correction to fit their perspectives.

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Learning strategies in the EMP classrooms are strongly used such as role-plays and simulations, task-based learning, case-based, ... as noted by medical students which enhances their application of the language according to the context. These strategies help the learners to build confidence, proficiency, a sense of critical thinking and enhance their communicative competence. These learning strategies are reliable tools to support skills enhancement when applied correctly.

To overcome the barriers and the difficulties faced by the students, they find themselves resorting to different strategies, methods and tools. Among the strategies use within the classroom are role-plays and simulations, task-based learning, case-based... as noted by medical students which enhances their application of the language according to the context. These strategies help the learners to build confidence, proficiency, a sense of critical thinking and enhance their communicative competence. The learners also highlighted their most effective methods as group work, individual work, watching medical videos and watching medical videos which are a way to present their preferences and needs. Lectures, videos and audio recording were among the tools cited by the participants highlighting the use of lectures as the most dominant studying tool in the EMP classroom which represents a challenge in EMP learning were students need a back-up and an additional support to improve their skills in and out of the classroom setting.

Finally, according to the finding of this research it is understandable that working on enhancing the different learning strategies is crucial, since English have become the language of science and research, but doing so is not an easy task which takes a lot of considerations to fulfil the gaps through shedding the lights on students' needs, providing more practical resources and tools correcting the learning methods, taking advantage from social media to create a suitable environment to support the learners in and out of the university doors, with forgetting the formulation of an adapted content and curriculum.

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3.3.2 Interpretation of teachers' questionnaire data

This part will discuss the data collected from the teachers' questionnaire that was prepared for the of getting data about the various teaching techniques used by EMP teachers, the idea was to gather data from teachers who share the same profession but different perspectives, different English proficiency and different ways of teaching. By analysing the participants' responses, we will identify the various teaching methods, tools, techniques, the main challenges faced by the teachers in EMP classrooms and some possible strategic changes.

The results of the teachers' questionnaire indicates that the practitioners use a variety of tools, methods, and techniques in teaching medical English to enhance the students' motivation and relevance. Authentic materials as data-sow, medical books, articles as well as the integration of technology and digital resources to immerse the students in the context and fostering the real-world application instead of the traditional ways and rote memorization. Techniques including simulations and role-plays, task-based and case based which are regularly integrated to meet the students' needs and styles, in order to enhance motivation and bridge the gap between theory and practice.

The study furthermore demonstrates the necessity of balancing the language skills. According to teachers reading as a skill is in the forefront, followed by listening and speaking, however writing is totally neglected and that represents a negative point to EMP teaching as it contributes to the world of research, publication and interacting with colleagues in a formal written form.

Among the participants, the collaboration with medical-subject teachers is occasional to rare, while the minority reported a regular collaboration. The lack of collaboration results in fragmented instruction, where teachers design content and emphasize on skills that are

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disconnected from subject experts' specialized content, leading to the absolute curriculum fail and misalignment in tasks, evaluation and terminology load. Fostering collaboration is crucial to bridge the gaps through co-planning.

The professional development in medical English teaching has an extreme necessity as stated by the participants. Without professional formation and training for example through workshops and subject-specific immersions educators miss some important element like medical terminology and contextual pragmatics, such formations boost the skills in syllabus design, the use of authentic materials and teaching styles and enable the teachers to be more dynamic which adapts to the learners' needs and elevate the efficacy of the programme.

At any teaching domain teachers may face some challenges when delivering their knowledge. The EMP practitioners face many difficulties because of time restraint where the teachers find it hard to accommodate theory and the practical activities in a limited time, another challenge represented in students' low English level and lack of resources that enables the teacher to develop his teaching abilities and at the same time adapt his sources to fulfil the students' weaknesses, large class size represents another difficulty where the teacher loses his ability to meet the students' needs, interests, his ability to assess and to create a clear, non-noisy environment.

Finally, for the sake of developing EMP teaching, the participants suggested some strategic changes such as concentrating on more communicative activities rather than rote theory, relying on informal educational style and E-learning, curriculum adaptation to better fit the limited teaching time, provide clearer and well-structured medical terminology lists, increase the focus on developing students' reading comprehension skills, and improve access to basic teaching resources, the focus on professional training and the integration of technology and social media for more interactive learning.

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3.4 Limitations of the study

Irrespective of the study's importance in highlighting the various learning strategies in the field of EMP, several limitations compromised the research.

The first limitation is related to the sample size. It was small and which cannot represent all the population, due to the inaccessibility to larger groups, the data collection was held on a small group of participants which creates a barrier to reflect the various experiences of medical students and teachers across different medical faculties in Algeria.

The second limitation is the participants' subjectivity, though this method is useful it opens the door to bias, for example when it comes to the adaptability of different learning strategies and teaching techniques can be over or underestimated by the participants

Finally, the single context design was a key limitation of this study, all participants were part of the medical university of Oran, where the findings may not be generalized to all the institutions, in which aspects as curriculum design, the level of students' proficiency, the students' needs, and the institutional conditions may differ.

Although all these limitations, the research findings broaden the insights and represent a solid foundation to any future research.

3.5 Suggestions and recommendations

Taking into consideration the main learning strategies used in EMP classrooms, several suggestions and recommendations arise to identify those strategies and their efficiency in developing medical English proficiency and the communicative skills.

The suggestions are as follows:

- ✓ The research can be held on a larger population size in order to generalize the results to all medical students and teachers.

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- ✓ In addition to the quantitative research design, the study could adopt a qualitative research design to offer the flexibility and the adaptability of the research.
- ✓ Designing a flexible and a learner-centred curriculum that adapted to the Algerian medical learners' needs and learning styles.
- ✓ Creating a syllabus in which its major focus is enhancing communicative skills and competences.
- ✓ A gradual transition from French to English in the Algerian medical universities and giving the hand of support for practicing English
- ✓ Opening the doors to training workshops for both teachers and students to improve the daily use of English and the expertise in the field of EMP.
- ✓ Integrating technological tools and using E-learning as a way to support the traditional learning strategies and teaching techniques.

3.6 Conclusion

This chapter englobes three main elements, the description of the data gathered, results analysis and interpretation and the main suggestions. Starting by the analysis of the data gathered through two questionnaires, following by interpreting the finding sorting up the main learning strategies, teaching technique and the main needs and challenges. By the end of this chapter a set of suggestions and recommendations were given for better improvement.

General Conclusion

General Conclusion

This dissertation has discussed the different teaching and learning strategies and its efficiency. The study has established that English has become a lingua franca and it is considered as the language of technology and science adopted by several domains as the medical field for example however there is no basic medical English curriculum to teach and learn it. So, it was crucial to study and explore the efficient EMP teaching/learning strategies that works on developing the students' communicative skills and the teachers' expertise in the field.

The study aims to achieve a set of objectives as examining the efficiency and the adequacy of EMP learning strategies for both the academic and professional contexts, providing curriculum planners, teachers and learners with empirical insights on what enhance EMP classrooms and to shed the lights on the weakness and gaps in the current learning strategies and teaching techniques so that the teachers adjust and create a new teaching resources.

Two questions were asked by the beginning of the study, and they were supposed to be answered:

- What are the most effective learning strategies in developing medical English proficiency and communicative skills?
- What are the prominent language skills and content areas are missing from the current teaching/learning strategies?

The research question was hypothesised that the communicative teaching/learning strategies as TBL, PBL, and role plays will result in higher medical English proficiency and the focus on EMP teaching/learning strategies analysis contributes to the teachers' expertise and learners' development.

General Conclusion

The second chapter was devoted for the methodological procedures. Discussed the choice of the theme and the corpus, the motivation, introduced the approach, instruments used in this study, it gave details about the setting, the sampling and the steps of conducting the investigation and analysing the data collected.

The third chapter is purely analytical, it analyses the data collected after a successful collection using a questionnaire addressed to both the learners and the teachers

Clear answered were drawn for the interpretation of the results, in which it answers the research questions, and confirmed the hypotheses suggested by the researcher. It provides experiences shared by the participants on the various teaching/learning techniques used, their efficiency and well as the challenges faced by the participants and the possible solutions.

Finally, a set of recommendation were suggested to overcome the study limitations in which it can be beneficial for any future research to tackle the topic from another dimensions and perspectives.

Bibliography

- Alm, A.** (2013). Extensive listening 2.0 with foreign language podcasts. *Innovation in Language Learning and Teaching*, 7(3), 266–280.
doi:10.1080/17501229.2013.836207
- Alonso Alonso, R.** (2023). Out-of-school contact with L2 English across four educational levels. *Porta Linguarum*, 40, 1–18. <https://doi.org/10.30827/portalin.vi40.25311>
- Babbie, E.** (2016). *The practice of social research* (14th ed.). Cengage Learning.
- Baran, E.** (2007). The promises of videoblogging in education. *The Annual Convention of the Association for Educational Communications and Technology*, 10(2)
- Bennabi, M.** (2022). On the search for valid ESP course designs in Algeria
- Belcher, D. D.** (2006). English for specific purposes: Teaching to perceived needs and imagined futures in worlds of work, study, and everyday life. TESOL
- Boudersa, N.** (2018). ESP Education in Algeria: A Description of the Teaching Situation Scenario with Focus on Problems, Challenges and Training. 1(2), 1–22.
<https://revues.imist.ma/index.php/IAJESP/article/view/14393>
- Chandrakar, D.** (2024). Higher education and english as an international link language. *ShodhKosh Journal of Visual and Performing Arts*, 5(7).
<https://doi.org/10.29121/shodhkosh.v5.i7.2024.4980>
- Coskun, A.** (2017). Investigating high school students' use of Extramural English: a scale development study. *Journal of the Human and Social Sciences Researches*, 6(1).
ISSN: 2147-1185
- Creswell, J. W., & Creswell, J. D.** (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications
- Dean, G.** *Improving Learning in Secondary English*, David Fulton Publishers Ltd, UK, 2004.
- Dewey, J.** (1938). *Experience and Education*. Macmillan.
- Dudley-Evans, T., & St. John, M. J.** (1998). *Developments in English for Specific Purposes: A Multidisciplinary Approach*. Cambridge University Press.
file:///C:/Users/PC/Downloads/THE_ROLE_OF_CASE_STUDIES_IN_ESP_TEACHING_TASHKENT_.pdf
- Dzięciol-Pędich, A., & Dudzik, A.** (2015). ESP or EGP: what do learners really need?
- Ferguson, G.** English for Medical Purposes, In B. Paltridge, & S. Starfield, *The Handbook of English for Specific Purposes* (pp. 243-261), Wiley- Blackwell, UK, 2013.
- Engelbrecht, P.** (2001). Unpacking the millenniums: A cautionary tale for teacher education. *Australian Journal of Teacher Education*, 26(2), 35–42.

- Erickson, D.** (2005). Challenges in teaching English conversation.10. Ferguson, G. (2012). English for Medical Purposes. In *The Handbook of English for Specific Purposes* (pp. 243–261).
- Georgieva V.** (2007). Systematization of Military Terminology: *Foreign Language Competence as an integral component of a University Graduate Profile*, 85-104. Nation ISP. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.
- Godwin-Jones, R.** (2014). Games in language learning: Opportunities and challenges. *Language Learning & Technology*, 8(2), 9–19.
- Hutchinson, T., & Waters, A.** (1987). *English for Specific Purposes: A Learning-Centred Approach*. Cambridge University Press.
- Kolb, D. A.** (1984). *Experiential Learning: Experience as the Source of Learning and Development*. Prentice Hall. Hutchinson, T., & Waters, A. (1987). *English for Specific Purposes: A learning-centred approach*. Cambridge University Press.
- Master, P.** Research in English for Specific Purposes, Dans E. Hinkel, *Handbook of Research in Second Language Teaching and Learning* (pp. 99- 116). Lawrence Erlbaum Associates, USA, 2005.
- Nezakatgoo, B., & Behzadpoor, F.** (2017). Challenges in teaching ESP at medical universities of Iran from ESP stakeholders' perspectives. *Iranian Journal of Applied Language Studies*, 9(2), 59–82 Quarterly, 40(1), 133–156.
- Nunan, D.** (2004). *Task-based language teaching*. Cambridge University Press. [file:///C:/Users/PC/Downloads/exploring-the-effectiveness-of-problem-based-learning-in-improving-english-for-specific-purposes-\(esp\)-proficiency_-the-case-of-eap-students.pdf](file:///C:/Users/PC/Downloads/exploring-the-effectiveness-of-problem-based-learning-in-improving-english-for-specific-purposes-(esp)-proficiency_-the-case-of-eap-students.pdf)
- Richards, J. C, & Rodgers, T. S.** *Approaches and Methods in Language Teaching A description and analysis*. Cambridge University Press, UK, 2014.
- Singh.K.Y.** (2006) *Fundamental of Research Methodology and Statistics*; New international publisher.
- Szymańska-Tworek, A.** (2017). Teaching English to medical students: reflections on problems and solutions from the teacher's perspective. In *Języki specjalistyczne. Teoria i praktyka glottodydaktyczna* (pp. 53–79). Wydawnictwo Uniwersytetu Śląskiego.
- Tomlinson, B.** English as a Foreign Language. In E. Hinkel, *Handbook of Research in Second Language Teaching and Learning* (pp. 137-154). Lawrence Erlbaum Associates, USA, 2005. file:///C:/Users/PC/Downloads/english-for-medical-purposes-in-algeria_-challenges-and-solutions.pdf

- Vajadi, S.** (2013). English as a Global Language. https://www.raijmr.com/ijre/wp-content/uploads/2017/11/IJRE_2013_vol02_issue_02_02.pdf
- Willis, J.** (1996). A framework for task-based learning. Addison Wesley Publishing Company.
- Zohrabi. M** (2013) Mixed Method Research: Instruments, Validity, Reliability and Reporting Findings pp. 254-262 University of Tabriz, Iran

Appendices

Appendix 01

STUDENTS' QUESTIONNAIRE

This questionnaire is designed to collect data about the main teaching and learning strategies used within the medical English classrooms, you're kindly asked to tick the appropriate answer and/or include a brief explanation when necessary.

- Please read each question carefully and answer accurately.
- You may ask for help or clarification when needed.
- Thank you for your time and cooperation.

1. How often does your teacher use medical vocabulary explanations with examples?

- A. Never
- B. Rarely
- C. Sometimes
- D. Often

2. Which teaching method is most frequently used in your classes?

- A. Lectures
- B. Group discussions
- C. Role-play
- D. Multimedia presentations
- F. learning through tasks

3. What kind of authentic materials (medical articles, reports, videos) used in class?

- A. Medical articles
- B. Reports
- C. Videos
- D. simulations

4. Which activity helps you most to understand medical terminology?

- A. Memorization of medical term
- B. Reading medical texts
- C. Case studies and real application
- D. Translation exercises

5. How often do you use medical dictionary or online resources?

- A. Never
- B. Rarely
- C. Sometimes
- D. Always

6. what is the most effective strategy for learning Medical English?

- A. Individual study
- B. Group work
- C. Listening to lectures
- D. Watching medical videos

7. Do you practice Medical English outside the classroom?

- A. Never
- B. Rarely
- C. Sometimes
- D. Often

8. Are speaking activities used in class?

- A. Never
- B. Rarely

- C. Sometimes
- D. Frequently

9. Role-play activities (simulations) help you to:

- A. vocabulary memorization
- B. Improve communication
- C. Pass exams

10. How do you speak Medical English in class?

- A. Very uncomfortable
- B. Uncomfortable
- C. Comfortable
- D. Very comfortable

11. What are the skills improved through medical English classes:

- A. Reading skills
- B. Writing skills
- C. Listening skills
- D. Speaking skills
- F. All skills

12. Which skill is least practiced in class?

- A. Reading
- B. Writing
- C. Listening
- D. Speaking

13. Medical texts used in class are:

- A. Too difficult
- B. Difficult
- C. Appropriate
- D. Very easy

14. What are the major listening activities involved in class?

- A. Lectures only
- B. Audio recordings
- C. Videos

15. According the teaching strategies used in class are:

- A. Ineffective
- B. Slightly effective
- C. Effective
- D. Very effective

16. Does medical English classes prepare you for professional communication?

- A. yes
- B. no

Justify?

.....

17. Teaching methods match your learning needs:

- A. Not at all
- B. Slightly
- C. Mostly
- D. Completely

18. During OSCE (ECOS) what are the languages used?

- A. Arabic
- B. English
- C. French
- D. a combination of those three
- F. mainly French and Arabic

19. What are the main difficulties that you face in learning medical English? add wat do you suggest for better improvement.

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Appendix 02

TEACHERS' QUESTIONNAIRE

This questionnaire is designed to collect data about the main teaching and learning strategies used within the medical English classrooms, you're kindly asked to tick the appropriate answer and/or include a brief explanation when necessary.

- Please read each question carefully and answer accurately.
- You may ask for help or clarification when needed.
- Thank you for your time and cooperation.

1. How often do you explicitly teach medical terminology?

- A. Rarely
- B. Sometimes
- C. Often
- D. Always

2. How do you usually introduce new medical vocabulary?

- A. Translation only
- B. Definitions and examples
- C. Memorization lists
- D. Student discovery

3. Role-play activities (simulations) are used:

- A. Never
- B. Rarely
- C. Sometimes
- D. Frequently

4. Case-based learning is:

- A. Not used
- B. Occasionally used
- C. Regularly used
- D. A core teaching strategy

5. What are the materials used within the classroom?

- A. Data-show
- B. Medical and scientific books
- C. Scientific articles
- D. Digital and multimedia resources

6. How often do you use audio-visual aids?

- A. Never
- B. Rarely
- C. Always

7. Do you adapt materials to students' language level?

- A. Yes
- B. No
- C. Sometimes

8. Which skill do you emphasize most in Medical English teaching?

- A. Reading
- B. Writing
- C. Listening
- D. Speaking
- F. All the four skills

9. The teacher's feedback is mainly:

- A. Minimal
- B. Occasional
- C. Regular
- D. Detailed and systematic

10. The main challenge that you face is:

- A. Students' low English level
- B. Limited teaching time
- C. Lack of resources
- D. Large class size

11. Medical terminology complexity in Algeria is a problematic:

- A. Agree
- B. Disagree
- C. I have no idea

12. Collaboration with medical subject teachers is:

- A. Non-existent
- B. Rare
- C. Occasional
- D. Regular

13. Current teaching strategies meet students' needs:

- A. Strongly disagree
- B. Disagree
- C. Agree
- D. Strongly agrees

14. Medical English courses should include:

- A. More communicative tasks
- B. More theory

15. Professional development in Medical English teaching is necessary:

- A. Not necessary
- B. Slightly necessary
- C. Necessary
- D. Very necessary

16. What are the strategic changed that you may do within medical English classroom?

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Summary

This dissertation explores the different strategies of teaching/learning EMP in the Algerian medical universities. It discusses the findings using the quantitative approach, extracted from two questionnaire addressed to students and teachers. The study aims to shed the lights on the weakness and gaps in the current learning strategies and teaching techniques so that the teachers adjust and create a new teaching resources, to examine the efficiency and the adequacy of EMP learning strategies for both the academic and professional contexts and to provide curriculum planners, teachers and learners with empirical insights on what enhance EMP classrooms.

Key words: EMP, teaching/learning, teaching techniques, learning strategies, curriculum.

Resumé

Cette thèse examine les différentes stratégies d'enseignement et d'apprentissage de l'anglais médical dans les universités algériennes. Elle analyse les résultats d'une étude quantitative fondée sur deux questionnaires adressés aux étudiants et aux enseignants. L'objectif est d'identifier les faiblesses et les lacunes des techniques pédagogiques et des stratégies d'apprentissage actuelles, afin de permettre aux enseignants d'adapter leurs pratiques et de concevoir de nouvelles ressources didactiques. L'étude évalue également l'efficacité et l'adéquation de ces stratégies dans les contextes académique et professionnel, afin de fournir aux responsables de programme des informations empiriques susceptibles d'améliorer l'enseignement de l'anglais médical.

الملخص

تتناول هذه الدراسة استراتيجيات تدريس وتعلم اللغة الإنجليزية لأغراض طبية في الجامعات الطبية الجزائرية. وتعتمد على المنهج الكمي من خلال استبيانين موجّهين إلى الطلبة والأساتذة، بهدف الكشف عن نقاط الضعف والثغرات في أساليب التعلم الحالية وطرائق التدريس، واقتراح تطوير موارد تعليمية جديدة، إضافة إلى تقييم مدى فاعلية وملاءمة استراتيجيات تعلم اللغة الإنجليزية الطبية في السياقين الأكاديمي والمهني، وتقديم معطيات عملية لمخططي المناهج والأساتذة والطلبة لتحسين تعليم اللغة الإنجليزية في هذا المجال.

الكلمات المفتاحية: التعلم، إستراتيجيات التدريس، أساليب التعلم، الإنجليزية لأغراض طبية.

الجمهورية الجزائرية الديمقراطية الشعبية
République Algérienne Démocratique et Populaire

Ministère de L'enseignement Supérieur et de La
Recherche Scientifique
Université Ain Temouchent - Belhadj Bouchaib -
Faculté des lettres, langues et sciences sociales



وزارة التعليم العالي والبحث العلمي
جامعة عين تموشنت بلحاج بوشعيب
كلية الآداب واللغات والعلوم
الاجتماعية

الترخيص بإيداع مذكرة الماستر

أنا الأستاذ(ة) المشرف(ة): حنيفة بويبر
على مذكرة التخرج في الماستر والموسومة بـ:
Teaching and Learning Strategies for medical English - Oral
Case of Medical Students at the Faculty of Medicine - Oran
من انجاز الطالب (بين):
1 عيسائي عبيد عائشة
2

ميدان: لغات أجنبية
شعبة: الإنجليزية
تخصص: تدريس اللغات التطبيقية
أشهد أن الطالب (بين) قد قام (أ) برفع كل التحفظات المطلوبة من طرف لجنة المناقشة.
وبإمكانه (ما) إيداع النسخة الالكترونية المصححة على مستوى المستودع الرقمي لجامعة
عين تموشنت.

امضاء رئيس اللجنة

الاسم واللقب
د. بلعربي دلال

عين تموشنت في: 2026/06/30

امضاء المشرف

الاسم واللقب
بين قمر فني بويبر
استاذ محاضر
قسم اللغة الإنجليزية

تأشيرة رئيس القسم

بن غالم بوعلام
رئيس قسم الآداب
اللغة الإنجليزية





الجمهورية الجزائرية الديمقراطية الشعبية
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التصريح الشرطي

الحاص بالالتزام بقواعد النزاهة العلمية لانجاز بحث علمي
(القرار رقم 1082 المؤرخ في 27 ديسمبر 2020 الذي يحدد القواعد المتعلقة بالوقاية من السرقة العلمية ومكافحتها)

أنا المضي أسفله،

الطالب (ة): عيساني عمير عائشة

الحامل (ة) لبطاقة التعريف الوطنية رقم: 401795991 الصادرة في تاريخ: 24.05.2022...

دائرة: عين تموشنت ولاية عين تموشنت

والمسجل بكلية الآداب و اللغات و العلوم الاجتماعية

قسم: اللغات والآداب

شعبة: اللغة الإنجليزية تخصص: تعليمية اللغة الإنجليزية واللسانيات التطبيقية

والمكلف بإنجاز مذكرة تخرج لنيل شهادة ماستر أكاديمي، الموسومة بعنوان: Teaching and Learning Strategies for Medical English:

Case of Medical Students at the Faculty of Medicine Oran

أصح بشرتي أن ألتزم بمراعاة المعايير العلمية والمنهجية ومعايير الأخلاقية المهنية والنزاهة الأكاديمية المطلوبة في انجاز مذكرة الماستر المذكورة أعلاه.

عين تموشنت في: 29.06.2026..

امضاء المعنى