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AN ACADEMIC SPEAKING COURSE BASED ON AUDIO – VISUAL INSTRUCTION: THE CASE OF MEDICAL STUDENTS AT THE FACULTY OF MEDICINE, AT TLEMCEN UNIVERSITY

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Dedication

To whom this work owes
a great deal:
To the memory of my
dear grandmother
To my beloved parents.
To all those who kept
my spirit up and
never ceased encouraging
me

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Writing this thesis was an ultra fascinating research journey in the enthralling universe of ESP, during which I took day after day an avid interest in English for medical purposes. In this worthy pursuit of knowledge, I was fortunate enough to be encouraged and helped by a good number of knowledgeable academics along the way.

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Ms. CH. Bensai

ABSTRACT

With the expanding influence of English as a global language and with the ubiquity of the internet as a goldmine of information and resources and as a unique meeting space for worldwide communication; it would be no exaggeration to say that English unlike other languages is still the dominant language of scientific knowledge dissemination and wider scientific communication. Thus, Algerian Doctors and medical students avid for up-to-the minute- medical research published in English need to have a good command of English. Actually, at the dawn of the twenty first century, English for medical purposes has not officially been incorporated into the medical curricula, in medicine. Indeed, English is included in the medical education neither in graduation nor in post- graduation. The researcher as a novice medical English teacher very keen to help inquisitive residents longing to learn English to achieve clinical excellence, sought the authorisation of the Dean of the faculty of medicine to conduct the present research. whose prime aim was to help residents speak academic medical English with ease and clarity via the exploitation of medical videos and PowerPoints.Therefore, a quasi-experimental study was carried out with third year post- graduate medical students, at the faculty of Medicine Abou Bakr Belkaid Tlemcen. This small-scale study was conducted within a time frame of nearly eight months.The focus was on examining the relative effectiveness of audio-visual instruction to teach medical English with a special focus on the development of the speaking skill. Hence, the researcher relied upon different data collection tools including: speaking tests, a speaking self-assessment checklist, a structured interview, a course evaluation questionnaire and the researcher‘s classroom observation diary so as to gather credible data. The research ends up by confirming the pedagogic significance of audio-visual instruction and put forth a number of recommendations regarding the selection and the use of audio-visual materials, the criteria necessary to devise speaking tasks, alongside a comprehensive course syllabus covering twelve medical thematically based units, geared towards raising the residents’ awareness of the complexities of Medical English language and aiming at developing their speaking skill .

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LIST OF ABBREVIATIONS

ALTE: Association of Language Testers of Europe

BMP: Bachelor-Master-Philosophia Doctor

CBA: Competency Based Approach

CEFR: Common European Framework of Reference for Languages

CEIL: Centre d'Enseignement Intensif des Langues

Centre of Intensive Teaching of Languages

CNP: Communicative Needs Processor (CNP).

DEMS: Diploma of Specialized Medical Studies

DESM: Doctorate in Medical Sciences

EAMP: English for Academic Medical Purposes

EAP: English for Academic Purposes

EFL: English as a Foreign Language

EGAP: English for General Academic Purposes

ELT: English Language Teaching

EMP: English for Medical Purposes

EOMP: English for Occupational Medical Purposes

EOP: English for Occupational Purposes

ESAP: English for Specific Academic Purposes

ESP: English for Specific Purposes

LMD: Licence Master Doctorate

LN: Learning Needs

LSA: Learning situation analysis

NA: Needs Analysis

PSA: Present situation analysis

SD: Standard Deviation

TN: Target Needs

TSA: Target situation analysis

GENERAL INTRODUCTION

GENERAL INTRODUCTION

In today's world of technology facilities access to information is easier, faster and cheaper. The internet as a treasure trove of information and knowledge and as a virtual space of exchange for the whole globe is favouring the need of learning and teaching English. Thus, students who wish to keep abreast of the latest news in their disciplines and to keep informed about the cutting edge research published in English need to learn English.

In this sense a good command of English is a golden key to the gate of knowledge and inadequate and poor command of English might constitute a real barrier preventing the learners from enjoying the pleasures of advancing ahead in their specialities.

The duty of English teachers is to find ways that help students to better learn English. Thus, the language class for the English teacher is like a laboratory for the biologist or the scientist. It is there that the teacher experiments old and new teaching methods. It is there that she/ he tries different teaching materials and tasks to achieve the desired results. It is there that she/ he observes the good and the bad effects of her/ his teaching methodology, the expected and the unexpected learning behaviours, outcomes and results .Thus, like the scientist, the English teacher learns by trial and error.

In this respect, the researcher as a novice medical English teacher embarking in the medical field about nearly four years has tried a variety of methods to facilitate the learning of medical English. Indeed, the former medical English courses with their merits and shortcomings were valuable experiences and the main source of inspiration of the present research whose prime concern is to try out the use of medical videos and PowerPoints presentations to teach medical language and to study the possible effects of audio-visual instruction on the development of medical students' speaking skill.

As a matter of fact, the researcher holds the belief that speaking medical English with ease and clarity is not a far reaching goal if appropriate teaching aids like the audio- visual materials are well exploited in class alongside meaningful teaching tasks.

In fact, this research is not the first one to question the effectiveness of audio-visual materials to teach English. Undoubtedly, countless studies and researches have been carried out about the use and the effectiveness of audio-visual aids in English language classes and most studies proved successful. What is different in this study is the content of the audio-visual aids which is purely medical, the purpose of instruction and the participants involved in this study. In other terms, while in general English classes the focus is usually on teaching or rising awareness about the target culture, the aim of this study is to use the videos and the PowerPoints presentations to present authentic medical language, to raise awareness about the distinguishing features of spoken medical English and more importantly to provide and maximize opportunities for practising medical language.

The research thus revolves essentially around one important and broad question: Does the use of audio -visual instruction help medical students to develop their speaking skill?

As this question is too broad, it was necessary to break it down into further questions for the sake of a thorough and a more focused investigation. The sub-questions guiding this small scale classroom research are as follows:

1. What do medical students need to learn to speak medical English in academic settings with ease and clarity?

2. Does the use of audio-visual materials along with meaningful teaching tasks help medical students to develop their speaking skill?

3. Is an audio-visual course more beneficial than a course based solely on chalkboard, texts, worksheets, flashcards and posters to develop medical students' speaking skill?

In response to the research questions, the following hypotheses were put forward:

1. Medical students need to learn and to widen their knowledge of the different linguistic features of medical English mainly grammar, general and medical vocabulary, as well as correct pronunciation to speak medical English in academic settings with ease and clarity.

2. A wise and a judicious use of audio-visual materials along with well-structured speaking tasks may help students to develop their speaking skill significantly.

3. An audio-visual course is probably more beneficial and fruitful than a course based solely on chalkboard, texts, worksheets, flashcards and posters to develop medical students' speaking skill.

To ascertain these hypotheses on practical ground, and to hopefully obtain scientifically accepted answers to the research questions, a quasi-experimental study was carried out at the faculty of Medicine Abou Bakr Belkaid Tlemcen with third year post- graduate medical students.

Prior to the experimentation and as a necessary condition to ensure a sound quasi-experimental study, the participants were divided into two similar groups, equal in number and similar in terms of speaking difficulties and actual speaking abilities. In both groups, the overall teaching objectives were the same: to teach medical English and to develop the participants' speaking skill. The only fundamental difference lies in the teaching materials. In one group audio-visual aids were used while they were not in the other. In the experimental group, teaching was exclusively fulfilled through the use and the full exploitation of medical videos and PowerPoints presentations, whereas in the control group, which serves as basis for later analysis , the only teaching aids used were : medical texts , worksheets , flashcards, posters and of course chalkboard.

As for the overall layout of the present thesis, the research problematic is discussed in more depth, in four interrelated chapters.

The first chapter is theoretical. It lays the theoretical foundation for this quasi-experimental study and for the subsequent chapters. It starts off with an overview of the development of English for Academic Purposes and draws a clear distinction between English for General Academic Purposes and English for Specific Academic Purposes. It proceeds then by shedding light on the vital role of Medical English. It also casts light on the development of audiovisual instruction shifting from the use of expensive video cassettes to free and easy to use computer video and power point applications .Greater emphasis is also put on the theoretical principles of course design and the teaching of the speaking skill in academic contexts.

The second chapter is purely descriptive. It is organized in a manner to capture a full picture of the teaching learning landscape. It also casts light on the key elements shaping this quasi-experimental research, with a special focus and a detailed description of the selected research instruments used in the fact finding stage namely: speaking tests, a speaking self-assessment checklist, a structured interview, a course evaluation questionnaire and the researcher‘s classroom observation diary. The use of such a variety of tools was definitely necessary to explore the research questions on practical ground.

The third chapter is basically analytical. It is a mixture of quantitative and qualitative analyses of the collected data. Throughout this chapter, the researcher attempts to scrutinize the data gathered during the pre, while and post experimentation phases so as to draw an in-depth comparative study of the experimental and control groups and to confirm or refute the research hypotheses.

The fourth chapter is almost pedagogical in nature. The essence of this quasi-experimental study is embodied in a medical English syllabus suggested for teaching the speaking skill using audio visual materials. Therefore, it encompasses a set of useful and practical teaching ideas with an illustrative unit plan.

THEORETICAL PERSPECTIVES ON TEACHING ENGLISH FOR ACADEMIC MEDICAL PURPOSES

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1.1. INTRODUCTION

With the ubiquity of Information Communication technologies, English unlike other languages is still the dominant language of knowledge dissemination and wider communication. In view of this, Algerian medical students seeking medical excellence and wishing to keep informed of the latest medical research published in English in their respective specialities need to have a good knowledge of English. Actually, despite the widespread use of the twin technologies internet and personal computers and the easy access and availability of the internet resources, Algerian medical students still need assistance and guidance in English language learning. One of the motives of this study is to exploit some of the available medical audio-visual materials retrieved from the net to teach medical students medical English with a special focus on the speaking skill so as to help them speak it with ease and clarity.

The primary aim of this theoretical chapter is to lay the ground for a sound experimental study. Therefore, it covers definitions of all the fundamental concepts pertaining to the topic of investigation. The chapter opens by tracing the genesis of English for Academic Purposes. It also stresses the importance of English for medical purposes in the pursuit of medical knowledge. Then, it traces the development of audio-visual instruction and underlines its role in educational settings. Furthermore, it discusses in detail all the key phases that shape course design.

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1.2. ENGLISH FOR ACADEMIC PURPOSES

English for Academic Purposes or EAP for short is a complex concept used to describe English language research or instruction in the academic fields. EAP literature shows that EAP is defined differently by different EAP scholars and researchers. As for Kennedy and Bolitho (1984: 4): “EAP is taught generally within educational institutions to students needing English in their studies.”

On the other hand, Charles (2013:136) states that: "English for Academic Purposes (EAP) is concerned with researching and teaching the English needed by those who use the language to perform academic tasks" and she provides the example of "Academics who need to give conference presentations and write research articles." (*ibid*: 136). Flowerdew and Peacock (2001:8) define and delineate EAP to: "teaching English with the specific aim of helping learners to study conduct research or teach in that language." In the same line of thought, Hyland and Hamp- Lyons (2002:2) offer a more extensive definition of EAP, they state that:

> English for Academic Purposes refers to language research and instruction that focuses on the specific communicative needs and practices of particular groups in academic contexts. It means grounding instruction in an understanding of the cognitive, social and linguistic demands of specific academic disciplines.

Thus, the prime concern of all EAP researchers or practitioners is to identify the needs of EAP students, the linguistic features characterising their specific academic disciplines and most importantly designing adequate and well thought out EAP syllabuses, courses and materials that meet the needs of EAP learners and equip them with the necessary language skills, they might need in their present or prospective academic fields.

1.2.1. EAP the State - of- the- Art

EAP has relatively a short history. According to Jordan (2002) "the term 'English for Academic Purposes' seems to have been coined by Tim Johns in 1974 and made its first published appearance in a collection of papers edited by Cowie and Heaton in 1977."(quoted in Hyland 2006: 2).Hyland adds that : "By the time the journal *English for Specific Purposes* began in 1980, EAP was established as one of the two main branches of ESP. "(*ibid*: 2). At this point, it must be stressed that in its

early days, EAP was a sub-division under the umbrella term English for Specific Purposes (ESP) ; a field of English language teaching emerging in the 1960's and dedicated to teaching English language courses tailored to students specific needs. In view of this, Flowerdew and Peacock (2001:11) point out that :

> EAP is normally considered to be one of two branches of English for Specific Purposes (ESP), the other being EOP (English for Occupational Purposes). Each of these major branches is then sub-divided according to the disciplines or occupations with which it is concerned.

In the same respect, Johnson and Johnson draw a clear distinction between EAP and EOP. They affirm that ESP encompasses :

> two main sub-branches English for Academic Purposes (EAP), dealing with the use of English in study settings where the main goal of language instruction is the ability to cope in the student's chosen academic specialism and English for Occupational Purposes (EOP), where the language is needed in the workplace environment of a job or profession.
>
> (Johnson & Johnson, 1998: 105,106)

In the same line of thought, Flowerdew and Peacock (2001:11) point that:

> EAP may be separated into English for Biology, English for Mathematics, English for Economics, etc.and EOP branches out into English for Pilots, English for Doctors, English for Bank employees, etc

To illustrate their definition, Flowerdew and Peacock propose the following tree diagram.

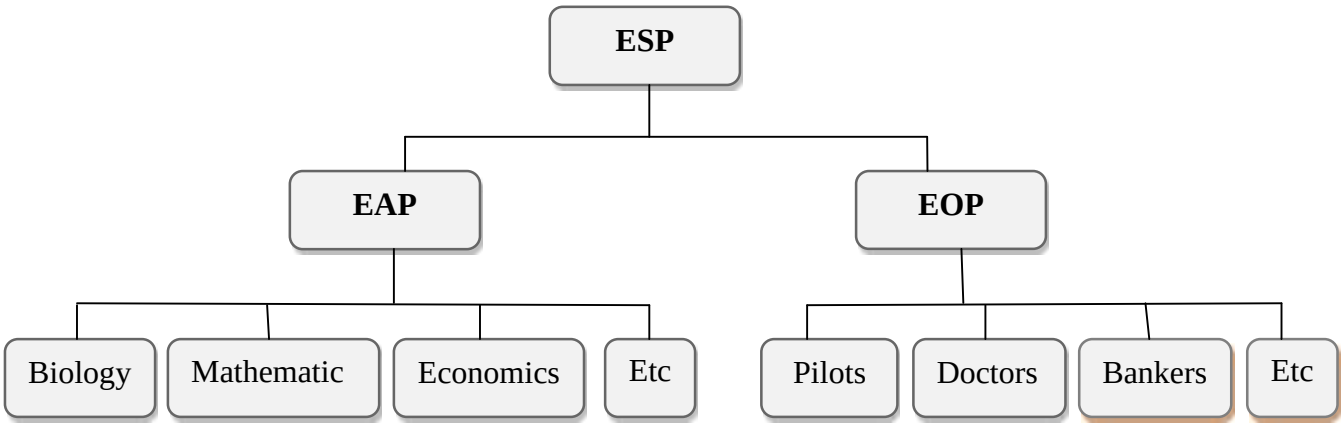

Figure 1.1. The two major branches of ESP

(Flowerdew and Peacock 2001:12)

Dudley -Evans and St John propose a different tree diagram to illustrate how EAP was divided into further teaching areas and how it was the offshoot of ESP.

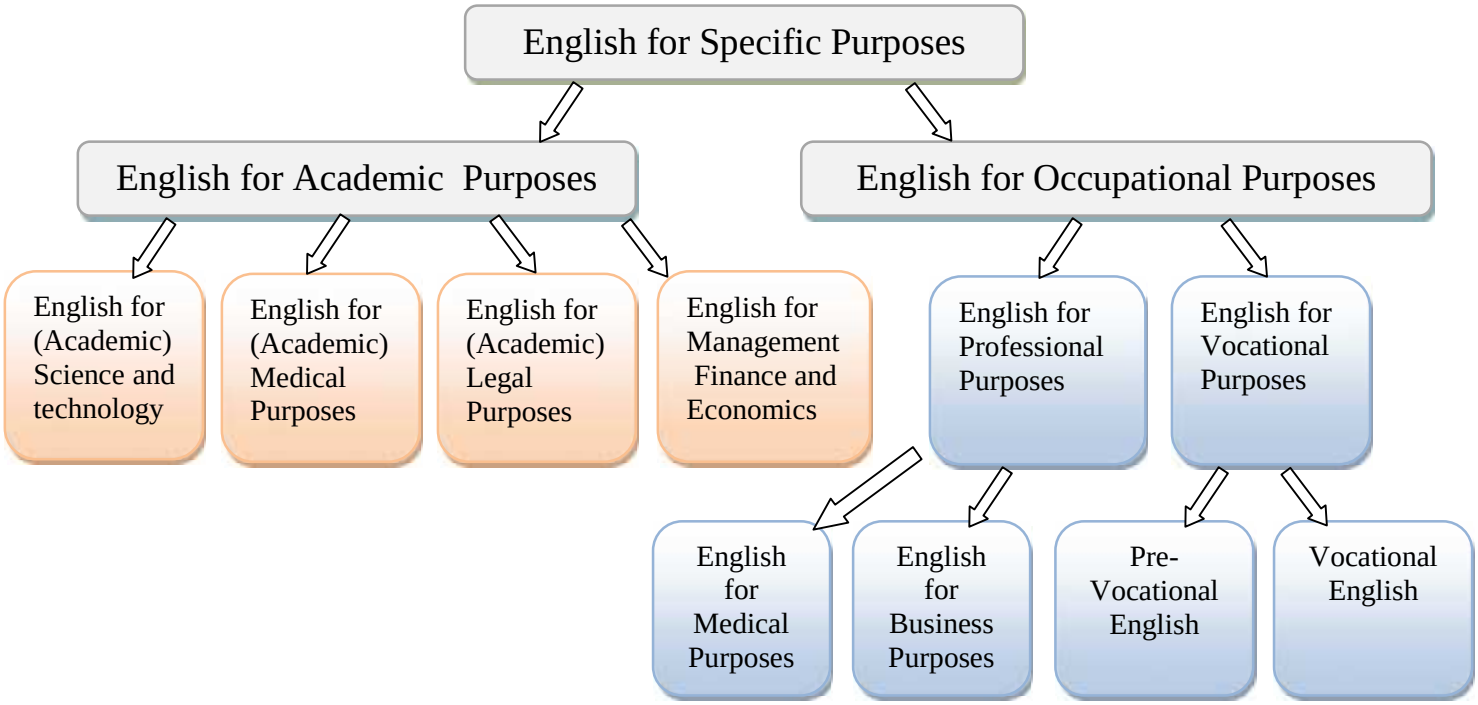

Figure1.2. ESP classification by professional area

(Dudley -Evans and St John 1998: 6)

As illustrated diagrammatically, EAP was embedded in ESP. Then, it gradually developed from an ESP sub-branch to a separate and a well established discipline of its own right. At this point, Johns and Dudley-Evans (1991:306) state that: "For most of its history, ESP has been dominated by English for Academic Purposes ... [and it] continues to dominate internationally" (quoted in Flowerdew and Peacock 2001:12) The rationale behind such domination lies in the fact that: "EAP practitioners work in academic institutions, where research and intellectual inquiry are encouraged. " (*ibid*: 12).

In the same line of thought, Flowerdew and Peacock add that: "Dudley-Evans (1998), co-editor of *English for Specific Purposes*, has described that journal as being dominated by EAP (as opposed to EOP)." (*ibid*: 12). This is another proof that EAP researches outnumber EOP researches. Among the reasons that speeded up the development of EAP is that:

> The growth of English as the leading language for the dissemination of academic knowledge has had a major impact around the world, binding the careers of thousands of scholars to their competence in a foreign language and elevating this competence to a professional imperative
>
> (Hyland and Hamp - Lyons, 2002:2)

In addition to that:

> EAP has grown steadily as English has expanded with the increasing reach of global markets. For many countries this has meant that producing an annual crop of graduates able to function in employment through English has become an economic imperative.
>
> (Hyland, 2006:2)

Hyland and Hamp - Lyons (2002:1) also stress that students: "must now gain fluency in the conventions of English language academic discourses to understand their disciplines and to successfully navigate their learning". In other words, EAP is absolutely vital to access knowledge.

They add that:

> The EAP agenda has always been to help learners gain access to ways of communicating that have accrued cultural capital in particular communities, demystifying academic discourses to provide learners with control over the resources that might enhance their career opportunities
>
> (*ibid*: 9)

As aforementioned, EAP descended from ESP and throughout years of continuous research, experiment and practice EAP became an independent discipline. Undoubtedly, EAP has inhirited some of ESP principles. Hyland and Hamp - Lyons state that: "EAP has emerged out of the broader field of ESP a theoretically and pedagogically eclectic parent."(*ibid*: 2). They add that EAP "reflect many of its parent's strengths and weaknesses" (*ibid*: 2). Concerning EAP strengths Hyland and Hamp – Lyons explain that:

> it is characterised by the same emphasis on strong inter disciplinary research ... It has also followed the same clear commitments to linguistic analysis, to contextual relevance, and to the classroom replication of community-specific communicative events.
>
> (*ibid*: 2, 3)

As regards its striking weakness Hyland and Hamp - Lyons explain that EAP: "has also inherited some of ESP's much discussed limitations, in particular: a tendency to work for rather than with subject specialists" (*ibid*: 3)

Another point worthy to mention here is that: "EAP and ESP were both fledgling fields only 20 years ago." (*ibid*: 3) Hyland and Hamp – Lyons explain that: "it was a gamble to start even one journal concerned with ESP, EAP, and related areas. For some years, it was a struggle to fill the pages of two issues a year." (*ibid*: 3)

They also point out that after some years:

> the author and reader base grew steadily, and in the last 10 years, ESPJ has really taken off, growing from 3 issues totalling 250 pages in 1991 to quarterly publication and 320 pages in 1997, and to over 500 pages in 2001
>
> (*ibid*: 3)

This fact reflects how ESP and EAP have developed throughout the years from fledgling research areas to fully-fledged fields of study attracting countless researchers and teachers. As for the current state of EAP, Hyland (2006: xv) stresses that "EAP is an activity at the forefront of language education today". He equally stresses that: "EAP is now also a much more theoretically grounded and research informed enterprise". (ibid: 3)

In the same line of thought, Charles comments that:

> EAP has thus become a major research field in its own right, responding to the demands of a widening circle of users by providing increasingly sophisticated accounts of academic discourse and translating these insights into pedagogically valid methods and materials.
>
> (Charles 2013:137)

Likewise, Hyland (2006:1) sums up the development of EAP as follows:

> English for Academic Purposes (EAP) has evolved rapidly over the past twenty years or so. From humble beginnings as a relatively fringe branch of English for Specific Purposes (ESP) in the early 1980s, it is today a major force in English language teaching and research around the world. Drawing its strength from a variety of theories and a commitment to research-based language education

Thus, over the years EAP grew stronger and stronger through international researches and thanks to the commitments of EAP teachers and researchers. Nowadays, EAP theorists divide EAP up into two main classes: English for General Academic Purposes (EGAP) and English for Specific Academic Purposes (ESAP).

1.2.2. EAP SUB-DIVISIONS: EGAP vs. ESAP

EGAP and ESAP stem from EAP to fulfil different teaching objectives. As pointed out by Dudley-Evans and St John (1998:41) "EGAP refers to the teaching of the skills and language that are common to all disciplines; ESAP refers to the teaching of the features that distinguish one discipline from others." While EGAP is quite general in terms of teaching; ESAP is rather more focused and specific.

According to Hyland (2006:9), in EGAP "teachers attempt to isolate the skills, language forms and study activities thought to be common to all disciplines."A fact that explains why EGAP is sometimes called common core, in contrast to ESAP which is described as subject-specific. Jordan (1997:5) states that: "A large proportion of the common core element is more usually known as 'study skills'."Thus, common core; study skills or EGAP are used interchangeably. Blue (1993) explains that: "English for General Academic Purposes isolates the skills associated with study activities." (quoted in Dudley-Evans and St John, 1998: 41) Among the study skills and activities which are essential in any discipline, Blue gives the following examples:

- Listening to lectures.
- Participating in supervisions, seminars and tutorials.
- Reading textbooks, articles and other reading material.
- Writing essays, examination answers, dissertations and reports.

(*ibid*: 41)

In the same respect, Jordan diagrammatically demonstrates the difference between EGAP and ESAP.

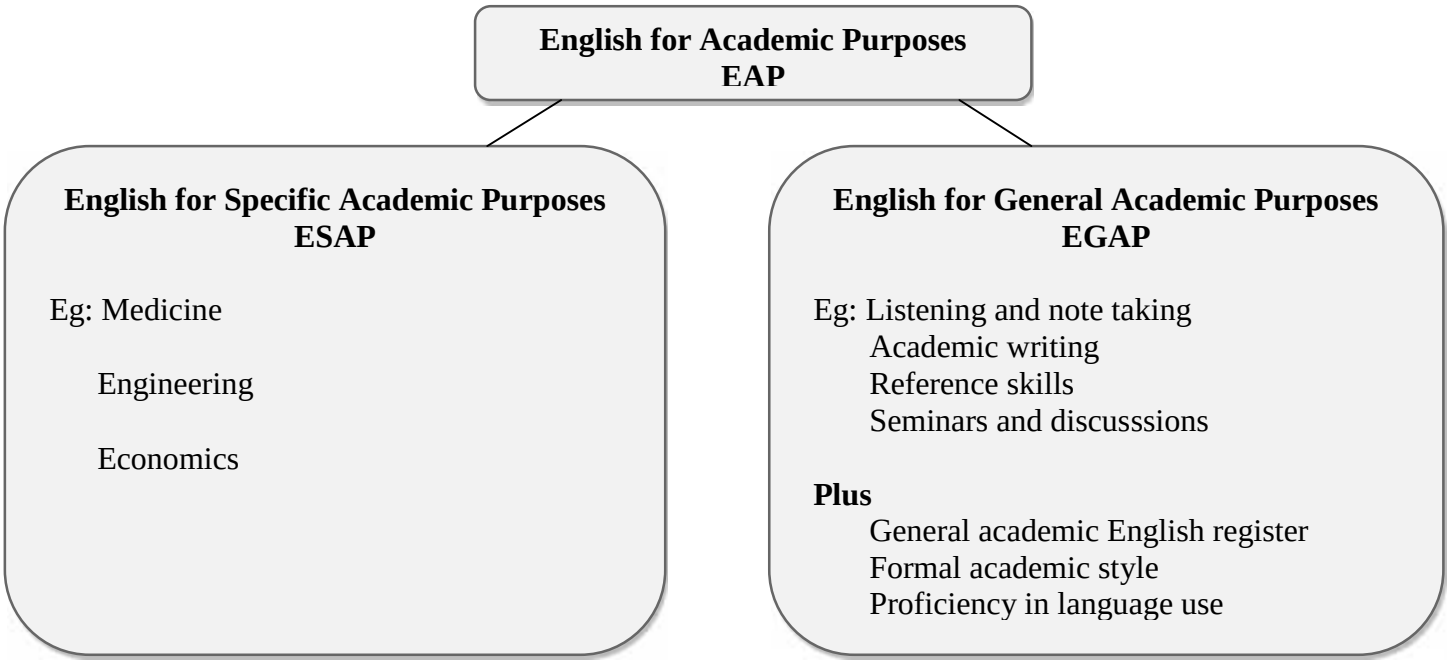

Figure1.3. English Purposes (Jordan1997:3)

Jordan's diagram shows that ESAP differs from discipline to discipline, whereas EGAP centres teaching on the study skills common to all the disciplines, i.e. EGAP is the common multiple among the different disciplines. Moreover, Jordan demonstrates the difference between EGAP and ESAP through an isosceles triangle whose base is EGAP and pinnacle is ESAP, as follows:

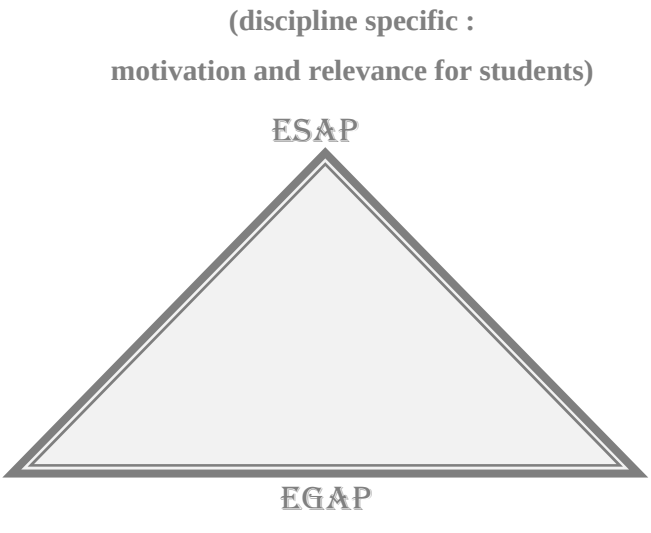

Figure1.4. EGAP →ESAP (Jordan1997:250)

EGAP being at the base of the triangle and ESAP at the vertex implies that in practice teaching the aforementioned general academic skills is prior to teaching ESAP, i.e. EAP students should move gradually from the basic and general to the complex and more specific. In a sense, a sound knowledge of EGAP or a strong EGAP base lays the foundations that are necessary to teach or learn ESAP.

In the same vein, Hyland (2006: 9) considers: "such activities as questioning, note taking, summary writing, giving prepared presentations and so on as generic academic practices." He also stresses that: "ESAP, on the other hand, reflects the idea that, while some generalizations can be made, the differences among these skills and conventions across distinct disciplines may be greater than the similarities."(*ibid:* 9)
He concludes that: "ESAP therefore concerns the teaching of skills and language which are related to the demands of a particular discipline or department." (*ibid:* 9)

In fact, even though there are basic general academic skills common to all the disciplines, each discipline has its own norms of knowledge presentation. As Hyland (2006:38) states: "Learning a discipline thus means learning to communicate as a member of a community."He explains that:

> Learning a discipline implies, among other goals, learning to use language in disciplinarily approved ways. It involves learning a specialized discourse for reading and writing, for presenting orally, for reasoning and problem solving, and for carrying out practical research activities.
>
> (*ibid*: 38)

In the same respect, he adds that: "The key concepts of a discipline, its methods of persuasion, its ways of negotiating interpretations and its practices of constructing knowledge are all defined through and by language." (*ibid*: 38) In view of this, Algerian medical students and doctors who want to keep informed of the cutting edge medical researches published in English, or want to attend international medical conferences held in English or wish to join international scientific communities need to learn English for Medical Purposes.

1.3. ENGLISH FOR MEDICAL PURPOSES

English for medical purposes (EMP) refers to medical English language research or instruction. Ferguson (2013:243) defines EMP as "a pedagogic and research enterprise focusing on improving the English language skills of non-Anglophone health professionals". Likewise, Maher (1986:112) asserts that:

> The term English for medical purposes (EMP) refers to the teaching of English for doctors, nurses, and other personnel in the medical profession. It involves the teaching /learning of English for an utilitarian purpose, an identifiable goal - typically, the successful performance of work or the optimum effectiveness of medical training
>
> .

In the light of Maher's definition, EMP teaching is not restricted only to doctors or medical students. The target learners may vary from nurses, paramedics, biomedical engineers, pharmacists, clinicians and researchers in medical circles. Maher explains further that:

> In general terms, EMP (a) is designed to meet the specific English language needs of the medical learner (eg.nurse ,GP , dentist , etc) ; (b) focuses on themes and topics specific to the medical field ; (c) focuses on a restricted range of skills which may be required by medical learner (eg, for writing a medical paper, preparing a talk for a medical meeting , etc)
>
> (i*bid*: 112)

Indeed, EMP courses initially emerged and developed in English speaking countries to assist over - seas medical students, doctors or specialists either to carry on medical studies, understand lectures at universities or at medical schools or to interact effectively with patients in hospitals or clinical settings. This implies that EMP teaching may be oriented either to academic purposes EAMP as illustrated in (Figure 1.2.) or it may focus on occupational purposes EOMP. In both cases, the ultimate aim of EMP teaching is to provide and ensure better health care services.

1.3.1. EMP Sub-divisions: EAMP vs. EOMP

The common factor between EAMP and EOMP is that both of them revolve essentially around teaching medical English and medical content. Nevertheless, there is a fundamental difference that set them apart and lies in the nature of the language needed by the learners. In EAMP, learners need to learn and develop primarily the formal variety i.e. they need to learn academic English skills necessary to succeed in their medical studies, whereas in EOMP teaching is a mixture of formal and informal English. Moreover, EOMP learners are all too often non-native English speaking medical practitioners needing medical English in their day –to-day communication with colleagues and patients. Their daily contact with English speaking patients make it absolutely imperative for them to learn the idiomatic ways of describing pains and symptoms, to learn the typical expressions used to convey clear medical instructions to patients especially about serious and sensitive manners such as breaking bad news. In fact, any misunderstanding may lead to serious medical consequences; that is why poor knowledge of medical English needed in clinical settings may result in undesirable problems and may constitute a real handicap for doctors. This fact explains why most researches in EMP focus on communication skills necessary to ensure good medical consultations. Yet, it should be noted that EMP research literature is characterised by considerable studies about issues related to health-care communication and a striking paucity of empirical studies about English for academic medical purposes.

1.3.2. The Importance of Medical English

English has long been the language of science and technology and is still the shared medium of wider communication among scientists. Giba and Ribes (2011: vii) stress that: “Nobody doubts that English is the language of Science and Medicine, and nowhere is this more convenient than at international meetings.”Similarly Yang (1995: vi) emphasises that:“Today English is the official language of international conferences and most of the important publications in science and technology now appear in English.”As regards the medical circles, Ferguson (2013:246) deposits that:

"The existence of EMP owes much, of course to the late twentieth century emergence of English as the foremost international language of science and medicine". In the same respect, Henric (2004:188) casts light on the present pivotal role English plays in medical spheres, especially in international medical conferences. He asserts that:

> Today, all the most influential medical journals are written in English, and English has become the language of choice at international conferences. We have entered the era of medical English, which resembles the era of medical Latin in that; once again, medical doctors have chosen a single language for international communication.

Henric does not only shed light on the status of medical English, he also illustrates how new medical words were composed from general English words. He states that:

> Whereas in former times new medical terms were derived from classical Greek or Latin roots, now they are often, partly or wholly, composed of words borrowed from ordinary English-e.g. bypass operation, clearance, base excess, screening, scanning-and doctors from non-English-speaking countries now have the choice between importing these English terms directly and translating them into their own language.
>
> (*ibid*: 188)

Henric's examples illustrate how new medical words are coined. He also shows how some of them like "the term bypass, for instance, is accepted in German, Dutch, Scandinavian, Italian and Romanian." (*ibid*: 188) This is in fact, evidence that English is imposing itself as the most dominant language in Medicine. In view of this, Ferguson (2013:246) commenting on the rise of English as an international language of medical research states that:

> In the middle ages, Latin had been the lingua franca of Western medicine. From the seventeenth century onward one sees an increased use of national languages (German, English, French) in medical texts and by the early twentieth century English had emerged as one of several international languages of medical science, the others being German and French. These, however, have since lost status relative to English.

Thus, Latin was the lingua franca of medicine in the middle ages, and English is the lingua franca of medicine in the digital era. Concerning the key contributing factors to the rise and the dominance of English, Benmoussat (2008:15) links the eminence of English to globalisation and to the wide spread use of the internet. He explains that: "The advent of the internet in the early 1990s has paralleled the emergence of globalisation as a multi-dimensional process."Then, he stresses that the ultimate consequence of globalisation and the world wide spread of the internet is the present eminence of English language, he points that:

> At the linguistic level of integration, globalisation reflects in very down-to-earth terms the hegemony of English as the language of international academic and scientific meetings. This hegemony can be extended to web- based communication
>
> (Benmoussat: 15)

In the same line of thought, Ribes (2006:x) a radiologist and the editor of a series of medical English books for different medical specialities states that:

> The need of English as a professional language in medicine is nowadays beyond doubt. Scientific literature and the internet are just two examples that reveal the overriding necessity for understanding and expressing ourselves in written and spoken English

According to Ribes speaking medical English is as important and necessary as writing medical English. In the same vein, Dr.Lucaya Chairman of Radiology in a Spanish hospital stresses that:

> The scientific importance of English is such that, whenever I have a meeting with my residents...I find myself emphasising over and over again the need for them to learn English. I may be exaggerating but I do think that unless you know enough English to read medical literature it is almost impossible to keep up to date with medical advances.
>
> (Quoted in Ribes (2006:x)

Thus, Dr.Lucaya being an expert in the medical field strongly believes that medical English is imperative to access medical information.

In Algeria, English is neither the language of medical instruction nor the language used in clinical settings. Nevertheless, since it is widely recognised as the language of transnational medical communication, it is necessary for anyone involved in the medical profession being a general practitioner or a specialist in public or private sector to keep informed of the latest medical advances. Besides, Algerian medical professionals who wish to publish their research findings and to reach wide readership must publish in English and they must take part in international medical conferences. As pointed out by Giba and Ribes (2011: vii)

> If a researcher or physician wants to communicate his or her results and conclusions to the scientific community, he or she must do so in English. Many careers have been stunted by poor English, and many more have never gotten off the ground because physicians failed to take advantage of the opportunity to speak at a meeting because of fears that their English was not up to the task.

Accordingly, a good command of English opens the door to Algerian medical professionals to move ahead in their medical careers and to present their research findings beyond the boundaries of Algeria.

1.4. A BRIEF OVERVIEW OF THE AUDIO-VISUAL METHOD

The audio- visual method also called the structural – global method is an old method of foreign language teaching. It dates back to the 1950's. It was originally developed in France, then it spread to other countries in Europe. After World War Π, it reached American elementary schools and was used to teach foreign languages.

As its name denotes, this teaching method relies exclusively on the use of audio-visual demonstrations to teach new language points. During the course of instruction, translation and the mother tongue are not allowed. They are forbidden. New language structures and functions are introduced and practiced through the use of audio-visual materials. The method gives priority to developing speaking and listening before reading and writing.

As regards the audio-visual equipments used in instruction, they were changing over the years. The following timeline shows the variety of audio-visual aids used in education from the 1960s onwards.

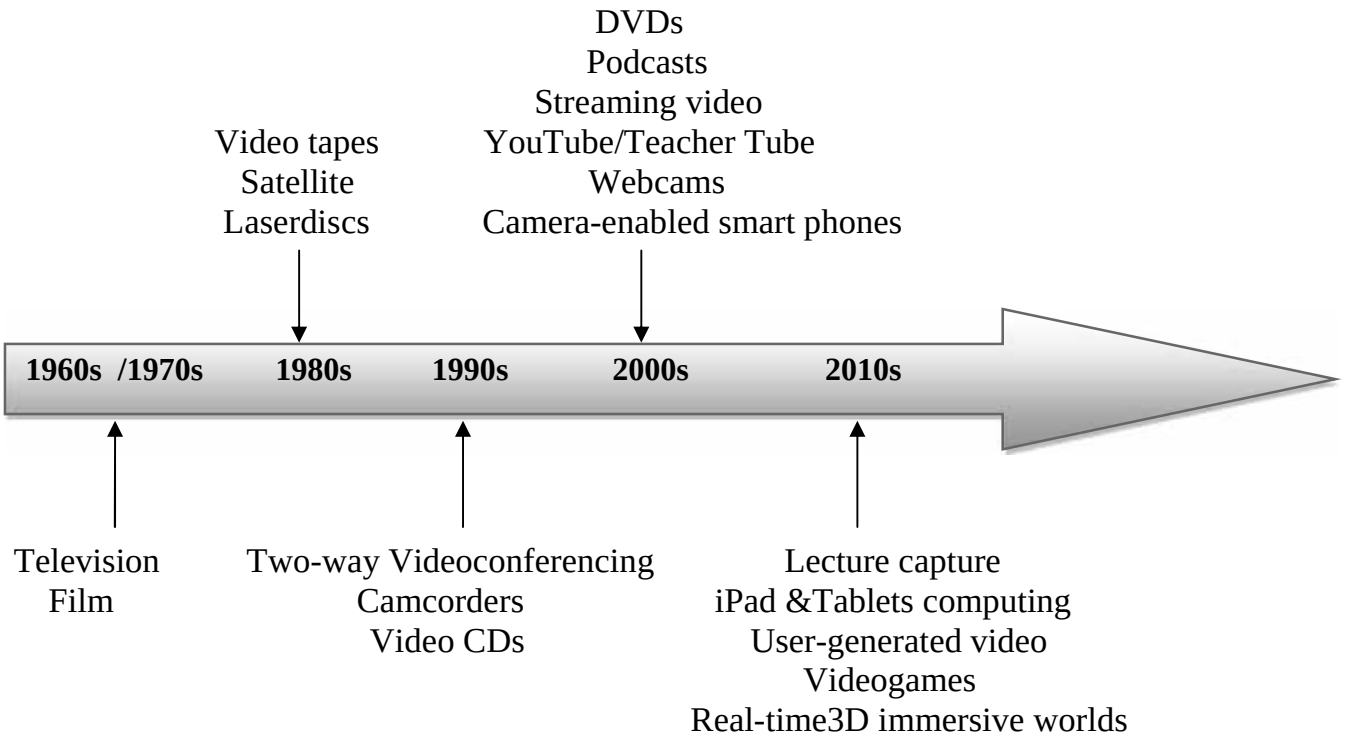

Figure 1.5. General Timeline for visual technologies in the classroom

(Source :Wainhouse Research / Greenberg and Zanetis 2012:11)

As demonstrated in the timeline, audio-visual equipments were changing throughout the years from analogue equipments to digital ones. In the past decades, teachers used to teach languages using: black and white TV receivers, colour TV receivers, video tape recorders (VTR), video cassette recorders (VCR), and camcorders. Then, the emergence of personal computers along with the emergence of the internet brought about new digital audio-visual materials that are cheaper and better in terms of image and sound quality. Nowadays, the internet is offering an amazing variety of educational videos and other similar digital aids that can be used to in class to teach English language for general or specific purposes.

1.4.1. Video in Language Classroom

Video has a long history in English language teaching. It can be used at all levels with beginner learners or advanced, with young or adult learners. It can be used to teach any language skill. In this vein, Theodaskis (2001) states that:

> Digital video technology, in particular, is a strong tool that can enable students to develop a variety of skills, including research, communication, decision- making, problem-solving and other higher – order critical – thinking skills.
>
> (Quoted in Lim 2009:40)

In the same line of thought, Fiorentino (2004) single out some advantages of integrating video in university curricula. He states that:

> the integration of digital video technology has the potential to enrich university classroom curricula, to enhance authentic and meaningful pedagogical experience, and provide new and sophisticated ways to improve student learning.
>
> (*ibid:* 40)

Moreover, the video's properties which include a combination of visual and auditory elements make this teaching aid a rich instrument serving a variety of teaching and

learning purposes. Previous studies show that video can fit different types of learners: visual, auditory and kinaesthetic learners. In addition to that, video can help teachers to perform a variety of teaching task. In 2010, an annual teacher survey on the value of multimedia and video content in the USA reveals that:

- 68% believe that video content stimulates discussions
- 66% believe that video increases student motivation
- 55% believe that it helps teachers to be more creative
- 62% believe that video helps teacher to be more effective
- 61% believe that video is preferred by students
- 42% believe that video directly increases student achievement

(Greenberg and Zanetis 2012)

Those statistical results prove that video is playing a significant role in educational spheres. As regards English language teaching, Macknight (1983:2) asserts that:

> Video is commonly introduced to give lift to methodology in terms of interest and motivation, to extend the range of teaching techniques available, e.g. to enable more sophisticated presentations, and to add an extra dimension to course design.

Thus, the video in a language class adds another flavour to teaching and learning, making learners more interested and motivated and making the classroom a fascinating teaching, learning space. Besides, video in a language class facilitates the teaching of difficult issues that are difficult to explain verbally. It can be also used to introduce language points, to practice them and to consolidate them in future .In view of this, Cooper (1991: 11) states that:

> Video is a supercharged medium of communication and a powerful vehicle of information. It is packed with messages, and ambiguity, and so represents a rich terrain to be worked and reworked in the language classroom.

To put it briefly, the use or the misuse of video in English language classes may have inevitable consequences. Therefore, the video is completely useless, unless it is accompanied with purposeful teaching tasks.

1.4.2. PowerPoint Presentations in Language Classroom

A PowerPoint presentation is an electronic slide show presentation created using a computer program called Microsoft office PowerPoint and it is usually presented to an audience through a data projector. The presentation is a collection of individual slides displaying information on a particular topic. As for the software Microsoft office PowerPoint, it is a user -friendly application with an interface to design multimedia slides. It was developed by Microsoft Corporation to help its users to create impactful and informative presentations containing: texts, graphs, charts, diagrams, spreadsheets, photos, animations and even sound and videos can be embedded within slides. Lewis (2009:29) describes PowerPoint as follows:

> Microsoft PowerPoint is an excellent entry point into the world of multimedia tools. It is like a sophisticated OHT in some ways .It is highly flexible... PowerPoint slides can include images, sound, animation, and video. They can also be linked to outside resources or linked internally, creating the feeling of having a homepage and sub-pages.

This software package was originally created to help businessmen design accurate and appealing business presentations. Then, PowerPoint was used in different spheres such as medical meetings and educational settings. As regards its use for educational purposes, Rabinowitz and et al (2010:12) state that: “Using PowerPoint for presentations took hold in the late1990s. It was a novel approach for instruction – so novel that students were transfixed by such presentations.”Thus, PowerPoint has been in use for more than two decades. However, in Algeria and as far as English language teaching is concerned PowerPoint is still a new teaching aid not used on regular basis in English language teaching classes. Nevertheless, it is widely

recognised as a rich and an excellent tool for presenting and practising language points. In the same respect, Lewis (2009:29, 30) explains that

> PowerPoint presentations are an equally useful presentation tools for you, the teacher. With PowerPoint you can introduce key concepts to your class, integrating words, pictures, and sound to give them a rich multimedia experience that supports (scaffolds) their understanding. This is very helpful if you have a large or mixed-ability class.

To put it briefly, PowerPoint is a useful and a time-saving teaching aid which can serve a variety of teaching purposes, providing that teachers use it creatively and purposefully.

1.5 EAP COURSE DESIGN

EAP Course design is an obligatory planning phase preliminary to any EAP course of instruction. As a concept, it can be defined as an umbrella term covering a number of interrelated key concepts such as: needs identification, needs analysis, diagnostic tests, achievement tests, syllabus design, material design, task developments, time management, teaching methods and course evaluation .This implies that course design is a highly complex process , sophisticated and time consuming plan guided by careful consideration of the teaching objectives and by following pre- defined steps stated by some well known scholars in the field of EAP.

1.5.1. Needs Analysis

In planning an EAP course and in the process of course design needs analysis is the first critical phase. It is data gathering phase. Frendo (2005:15) stresses that: “Before we can start teaching a course there is a certain amount of information which we have to gather in the form of a needs analysis.” Hence, needs analysis is as essential as pillars for buildings because it might constitute a firm or weak basis for an

EAP course. If it is ill-conceived it may generate serious consequences on learning and possibly it may lead to course failure. By contrast, a painstaking needs analysis may afford valuable and insightful information helping course designers or EAP teachers to make well-informed decisions while planning the subsequent phases of an EAP course. In this respect, Basturkmen (2010:26) offers a simple and a straightforward definition of NA. She states that:

> In its simplest form, needs analysis is a pre-course design process in which information is gathered to help the teacher or course developer decide what the course should focus on, what content in terms of language or skills to include and what teaching/learning methods to employ.

Long, however, metaphorically compare needs analysis to a careful medical diagnosis of any medical condition undertaken before prescribing any treatment. He asserts in a very metaphorical way that:

> Just as no medical intervention would be prescribed before a thorough diagnosis of what ails the patient, so no language teaching program should be designed without a thorough needs analysis. Every language course should be considered a course for specific purposes, varying only (and considerably, to be sure) in the precision with which learner needs can be specified
>
> (Long, 2005:10)

In the light of Long's metaphor, misdiagnosing a medical condition will probably have nasty effects on the patient, in a way or another and by analogy if teachers mistakenly and unintentionally fail to identify learners needs they end up by an almost inevitable course failure. The point here is that effective EAP courses are grounded on effective needs analysis and without proper diagnosis no intervention is possible.

1.5.1.1. Needs Analysis Development

NA witnessed important development both in theory and in practice. According to the Encyclopaedic Dictionary of Applied Linguistics NA "has been extensively discussed and modified from the perspectives of both principle and practice." (Johnson & Johnson, 1998:228). During its relatively short history, it evolved from a simple concept emerging in the 1960's to a more complex one. In the 1960s, language course planners "were required to demonstrate that a proposed program was a response to a genuine need."(Pratt1980 quoted in Richards 2001:50) In other terms, NA resulted from a growing demand for accountability in education. However, at that time it was too limited in focus and scope.

After that, "needs analysis developed into something of an industry" (.Richards, 2001: 51). Johnson and Johnson (1998:228) report that NA "gained prominence during the 1970's" and "it has been particularly associated with the field of ESP"' *(ibid*: 228) and Mc.Donough goes further to equalise NA to ESP stating that NA "has become almost synonymous with ESP" (Mc.Donough1984:29)

In 1978, Munby proposed a model of ESP needs analysis called the Communicative Needs Processor (CNP). It is a set of detailed procedures that help needs analysts to draw "a profile of the students' language needs"(Jordan, 1997:24) Munby's framework for NA was focusing solely on the analysis of the target situation to specify the syllabus content. Moreover, West (1994) stresses that Munby's "model collects data about the learner rather than from the learner." He adds that: "While the model provides an abundance of detail, it is impractical, inflexible, complex and time-consuming"(West, 1994 quoted in Kaewpet).

On the other hand, Jordan (1997:24) states that: "in spite of the criticisms Munby's approach and model have been very influential: either developments have stemmed from his work or; as a result of reactions to it." In the same line of thought, Hutchinson and Waters (1987:54) comment on Munby's CNP stating that: "The work

marked a watershed in the development of ESP. With the development of the CNP it seemed as if ESP had come of age."

Indeed, Munby's CNP marked the beginning of a new era in NA history. Munby opened the door to more rigorous researches and more in-depth studies taking into accounts variables and elements, he deliberately neglected or failed to consider himself. For instance, Hutchinson and Waters acknowledge that the CNP was "the most thorough and widely known work on needs analysis' but lay particular stress on its drawbacks. They pinpoint that: "what the CNP produces is a list of the linguistic features of the target situation. But there is much more to needs than this." (*ibid*: 54)

In contrast to munby's CNP or language - centered approach, Hutchinson and Waters advocate a learning centered approach. They maintain that NA should not be restricted to the target situation analysis (TSA) only, but should be broadened further to take into account students' learning needs as well. They classified needs into two categories: target needs (TN) referring to "what the learner needs to do in the target situation" and learning needs (LN) referring to "what the learner needs to do in order to learn." (*ibid*: 54)

A/ Target Needs

Hutchinson and Waters added new dimensions to NA and as a reaction to former studies which were confined to the identification of students' necessities in the target situation, they emphasise equally on students' lacks and wants. In view of this, target needs can be considered as a multi-dimensional concept that should be approached in practice from three key parameters: necessities, lacks and wants.

- **Necessities**

Necessities refer to what the learner is supposed to know in terms of language skills and abilities to successfully operate in the target situation. Such needs are specified and driven from a thorough analysis of language use in the target situation. Hutchinson and Waters (1987: 55) describe necessities as : " the type of need

determined by the demands of the target situation, that is, what the learner has to know in order to function effectively in the target situation."

- **Lacks**

Lacks refer to the existing gap between the learners' current level and linguistic abilities at the beginning of a language course and the required level of performance at the target situation. According to Jordan (1997:26): "Lacks represent the gap between the target proficiency and what the learner knows already". He explains further that lacks refer to:"the difference between the student's present competence and the desired competence"(*ibid*:27)In the same vein, Robinson (1991:8) defines lacks simply as: " what the students do not know or cannot do in English."

- **Wants**

In contrast to necessities and lacks which are objective needs, Robinson (1997:7, 8) mentions that: "students may have personal aims in addition to (or even in opposition to) the requirements of their field of studies or job."Those needs are rather personal and are often referred to as subjective needs because they represent what the learners themselves wish to learn from a language course.

B/ Learning Needs

Hutchinson and Waters introduced LN to complete TN. Unlike TN which are goal-oriented needs, LN are process oriented. Thus, they fulfil separate but complementary functions. Learning needs is the activity of collecting data about the learners, the learning context and other key factors that play a crucial role in the teaching learning process and that may have more or less significant effects on learning outcomes.

Moreover, Hutchinson and Waters have well-defined the foci of both TN and LN by putting forward a set of questions to guide course planners in drawing accurate

NA. In other words, they have devised two frameworks for analysing TN and LN. The following table summarises the key questions underlying both TN and LN.

	Target Needs	Learning Needs
Why ?	**1.Why** is the language needed ?	**1.Why** are the learners taking this course ?
How ?	**2.How** will the language be used ?	**2.How** do the learners learn ?
What ?	**3.What** will the content areas be ?	**3.What** resources are available ?
Who?	**4.Who** will the learners use the language with ?	**4.Who** are the learners ?
Where ?	**5.Where** will the language be used ?	**5.Where** will the ESP course take place ?
When ?	**6.When** will the language be used ?	**6.When** will the ESP course take place ?

Table 1.1. Adapted from Hutchinson &Waters frameworks of TN &LN Analyses (1987:59-60, 62-63)

Furthermore , in order to demystify NA and its sub- divisions, Hutchinson and Waters (1987 :60) metaphorically compared NA to an itinerary of a journey whose starting point is lacks, its destination is necessities, possible disagreements about the desired destination refer to wants and learning needs represent the route. In fact, they insisted on the route pointing that :

> we must choose our route according to the vehicles and guides available (i.e. the conditions of the learning situation), the existing roads within the learner's mind (i.e. their knowledge, skills and strategies) and the learners'motivation for travelling (Hutchinson and Waters 1987 :62) .

As it has been demonstrated, NA appears to be growing in scope. In view of this, Dudley-Evans and St John (1998 :122) affirm that : " the definitions of needs and needs analysis have broadened with experience and research". They comment further on the expanding concept of NA stating that: "One difference between now and the 1960's is what we understand by the concept needs and needs analysis. A confusing plethora of terms exists."(*ibid*: 123). Likewise, Basturkmen (2010 :17) reports that:"Over the years needs analysis has become increasingly sophisticated. In the early years of ESP, needs analysis tended to be construed as a fairly simple precourse procedure involving analysis of the target situation". However, nowadays NA is no longer considered as a once off precourse procedure but rather as an ongoing process of needs identification and analysis. Accordingly, it seems obvious that NA is a controversial issue among NA theorists and analysts and it mirrors their different ideological views.

1.5.1.2. Needs Analysis Approaches

In modern- day literature on NA, needs analysts and theorists have pushed back the boundaries of NA further and have broadened its scope. Nowadays, NA is approached from three distinct perspectives : target situation analysis, present situation analysis (PSA), learning situation analysis(LSA).

- **Target Situation Analysis**

In TSA, the EAP teacher identifies the language skills and the specific registers necessary for the learners to operate effectively in the target situation. As stated by Huthcinson and Waters (1987, 62),"Target Situation Analysis can act as a compass on a journey to give general direction ."

- **Present Situation Analysis**

In PSA, the EAP teacher identifies the learners' actual level before designing the EAP course so as to get a clear idea of their actual strengths and weaknesses and to estimate the gap between their current language proficiency level and the desired or the required level in the target situation.

- **Learning Situation Analysis**

In LSA, the EAP teacher identifies the learners' learning preferences, styles, expectations and desires. In other terms, LSA refers to attitudinal and motivational factors, i.e. the psycho-pedagogical factors effecting positively or negatively learning. The following diagram illustrates the difference between these three distinctive approaches.

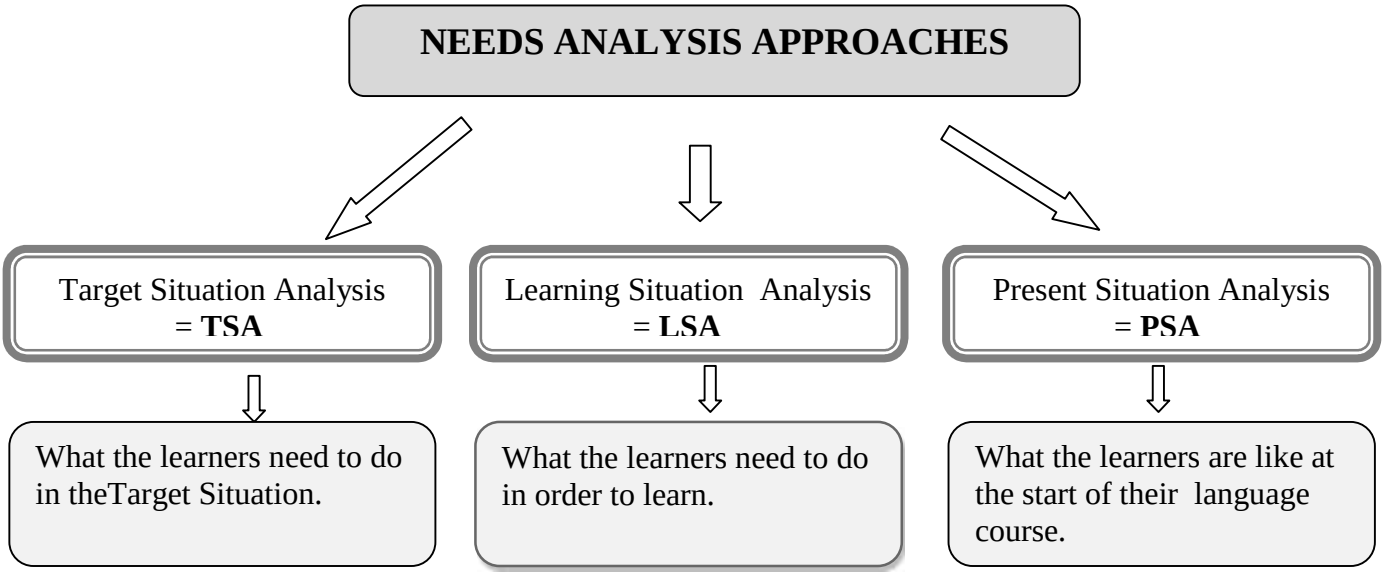

Figure 1.6. Needs Analysis Approaches

To sum up, NA is the keystone to frame an EAP course design. It does not guarantee a 100 % successful EAP course but simply lay a solid ground and pave the way to a sound and a well constructed EAP syllabus and subsequently to a more purposeful and more effective EAP teaching and hopefully to a successful EAP course.

1.5.2. EAP Syllabus Design

In the context of EAP, the EAP syllabus is a document that specifies the EAP course content. For the EAP teacher, it is like a strategic plan of instruction and for EAP students, it is like a prospectus depicting the EAP course and informing them about the overall organisation of the course content and giving them a clear idea about

what is expected to be taught in the course. In this vein, Robinson (1991:34) states that a syllabus: "is a plan of work and is thus essentially for the teacher as a guideline and context for class content." She adds that:

> There may be value in showing the syllabus to students, so that they too can have a route map of the course... students can see that there is a plan and how individual lessons fit together (*ibid*: 34)

Thus, the syllabus is equally important for teachers and students. Another important point worthy to mention here is that the EAP syllabus is a needs - based syllabus. It is a concrete interpretation of NA. It is not a definite and unquestionable teacher plan to be applied in an EAP class. It is flexible, it can be adjusted and modified according to students' views and wishes as the course progresses and students become more and more aware of their real needs. To put it simply, an effective EAP syllabus should be negotiated and re- negotiated whenever it is necessary until reaching a compromise.

As regards syllabus Types, literature on syllabus design reveals that the different syllabuses in English language teaching fall under two main categories: synthetic types or analytic types. In this vein Basturkmen (2006:21) explains that:

> Syllabuses can be synthetic (language is segmented into discrete linguistic items for presentation one at a time) or analytic (language is presented whole chunks at a time without linguistic control)

Likewise, Richards and Schmidt (1985:535) draw a clear distinction between synthetic and analytic syllabuses. They explain that in a synthetic syllabus type:

> The language to be taught is first analyzed into its basic parts (e.g. the grammar is analyzed into parts of speech and grammatical constructions) and these are taught separately. The learner's task is to put the individual parts together again (i.e.to synthesize them)

Concerning the analytic type, they state that:

> Units of language behaviour are the starting point in syllabus and course design(e.g.descriptions ,requests, enquiries,and other speech acts. At a later stage, if necessary, the vocabulary and grammar used for different functions can be analyzed
>
> (*ibid*: 535)

Obviously, there is a striking difference between synthetic and analytic syllabuses. While the former is product oriented, the latter is process oriented. Nevertheless, Hyland (2006:83) stresses that: "These types of syllabus constitute two ends of a continuum rather than opposing poles of a dichotomy, but while EAP courses may employ elements of both most tend towards the analytic end of the cline."

In the context of EAP teaching, Flowerdew and Peacock (2001) list the following types of syllabus

- Lexico-grammatical (organized around structures and vocabulary).
- Functional-notional (organized around language functions and notions).
- Discourse-based (organized around aspects of text cohesion and coherence).
- Learning-centered (organized on what the learners have to do in order to learn language items and skills, not the items and skills themselves).
- Skills-based (organized around particular skills).
- Genre-based (organized around conventions and procedures in genres) as units of analysis).
- Content-based (organized around themes).

(Quoted in Basturkman2006 24)

Flowerdew and Peacock's list includes synthetic and analytic types of syllabus. In practice, the choice of a syllabus in an EAP context is not a matter of EAP teacher's personal attraction but rather an informed choice taking learners' needs as the prime consideration. As Robinson (1991:41) states: "The decision as to which syllabus type or types to employ will result from a judicious consideration of the students' needs and the objectives of the course." Another point important to mention here, is that EAP

teachers can combine more than two types of syllabuses when necessary to fulfil the underlined objectives of an EAP course.

In short, the EAP syllabus is a road map for the EAP course; it provides a sense of direction to both EAP students and EAP teacher. An effective EAP syllabus should firstly match up EAP students' needs and EAP course objectives and secondly should help the EAP teacher select adequate teaching methodology and appropriate teaching materials.

1.5.3. EAP Material Design

In EAP teaching, EAP materials refer to anything the teacher might use to facilitate the teaching and learning of EAP. As defined by Hyland (2006:94):

> Materials refer to anything that can help facilitate the learning of language and while they are predominantly paper-based, they can also include audio- visual aids, computer- mediated resources, real objects, or performance.

Thus, the teaching material can be in a printed form, an audio form, an audio-visual or even in an electronic format. As regards, the process of EAP material design, it is widely known as an effort-demanding and time-consuming phase in EAP course design. It is not only specified by the EAP syllabus and conformed to the EAP course objectives but it should also correspond to the EAP students' language level as well. In this respect, Hyland speaking about the pivotal role of EAP materials stresses that:

> They provide most of the input and language exposure that learners receive in the classroom and, because course outcomes significantly depend on them, teachers need to ensure that their materials relate as closely as possible to the target needs and learning profiles of their learners.
>
> (*ibid*: 94)

In the light of Hyland's definition EAP courses and by inference EAP learners are affected by the nature of the materials used in EAP classes. Hyland adds that: "Materials are used to stimulate and support EAP instruction and their development probably consumes most of the teacher‘s out of class work time." (*ibid*: 94) In the same vein, Dudley-Evans and St John (1998:172) emphasise equally that:

> Not surprisingly, producing one hour of good learning material gobbles up hours of preparation time. Each stage of finding suitable carrier content, matching real content to learning and real world activities, composing clear rubrics, planning an effective layout, is time consuming.

Hyland (2006:97) reports that: "Dudley-Evans and St John (1998) estimate at least fifteen hours to produce just one hour of good learning material."In the context of EAP teachers are strongly advocated to develop their own teaching material so as to suit the specific needs of their learners. As pointed out by Hyland:

> The highly targeted and context specific nature of EAP means that no textbook can ever be ideal for a particular class and so an effective teacher needs to be able to evaluate, adapt and produce suitable and effective materials.
>
> (*ibid*: 96)

In the same vein, Bocanegra-Valle (2010: 144) claims that: "Developing materials is a matter of trial and error" Indeed, EAP teachers either develop their materials from scratch or tailor some published or commercial materials. The materials designed by the teacher himself or herself are also called: "tailor-made materials, locally produced materials, self-designed materials, internal materials, home-made materials or home-grown materials." (*ibid*: 150)

Another important point worthy to mention here, is that in EAP teaching circles, too much stress is put on the issue of authenticity, teachers are encouraged to develop authentic material. Richards and Schmidt (1985:42) defines authentic materials as:

> ... materials that were not originally developed for pedagogical purposes, such as the use of magazines, newspapers, advertisements, news reports, or songs. Such materials are often thought to contain more realistic and natural examples of language use than those found in textbooks and other specially developed teaching materials.

Likewise, Bocanegra-Valle (2010: 145) asserts that:

> Authentic, genuine, real, natural or unsimplified are adjectives randomly used today in ESP to refer to texts or materials that can be used within language-learning contexts but which were specifically written or developed for an audience other than language learners.

In the same line of thought, Alexander (2008:20) affirms that: "Authentic materials are essential in EAP and are intrinsically motivating for students."The reason behind the use of authentic materials is to prepare EAP learners through the use and exploitation of authentic material to real world situations, they are likely to encounter in their respective academic fields.

Another critical point is about the issue of the nature and the features of teaching materials available in ESP /EAP has been highlighted by McDonough (2010) in a recent "survey review of current materials in ESP/EAP." After, a thorough examination, she finds out that: "over 20 professional areas in which English was needed for effective communication."(Quoted in Goh 2013, 55) She gave the examples of many disciplines such as medicine and nursing. Goh explaining Mc Donough findings states that:

> ... for most if not all of the materials surveyed, the explicit emphasis was on learning specialized vocabulary. While grammar and language skills (speaking, listening, reading and writing) are also important in many of the materials she described, the emphasis given to each of these areas was uneven.
>
> (*ibid*: 55)

Thus, Mc Donough survey's findings about current materials is a plea for developing more effective EAP materials .In the same vein, another equally important point was raised by Feak (2013: 49) who was commenting on the dearth of ESP/EAP speaking material .She asserts that:

> ...it is surprising that in comparison to other approaches to English language teaching, relatively few pedagogical materials are readily available. While many studies indicate that research has been undertaken to inform teaching, the materials developed are largely occluded, shared to a much lesser extent than the actual research

Feak links the alarming paucity of ESP/EAP speaking material to ESP/EAP researchers who all too often share their empirical studies or researches but willingly or unwillingly do not share the material they had developed.

To put it in a nutshell, Even though self-made materials require too much time and energy on the part of EAP teachers, they may generate good learning outcomes .Especially, if the materials are coupled with appropriate teaching methodology.

1.5.4. Teaching EAP Speaking

EAP literature shows that compared to other language skills, teaching the speaking skill is almost relegated and sidelined. While there is an extensive and a large body of literature on EAP reading and writing research, there is not enough research about EAP speaking. In this respect, Feak (2013:35) reports that:

> The research lens of English for specific purposes (ESP) would appear to be overall somewhat more focussed on writing than speaking. One factor contributing to this phenomenon is that in some ESP contexts, specifically English for academic purposes (EAP), written genres rather than oral genres have been considered as more central to professional success.

Furthermore, Feak links the dearth of EAP speaking research to the difficulty of collecting relevant speaking data. She goes further explaining that:

> Another, perhaps more important, factor may be the relative ease with which written data can be obtained and compiled into a usable form for analysis. Unlike the case of writing, significant methodological barriers to collecting speaking data along with subsequent transcribing have posed challenges to research
>
> (*ibid*: 35)

In the same line of thought, Robinson (1991:105) asserts that: "Speaking in EAP is a relatively neglected era." She also stresses that: "Empirically, EAP speaking has been an under-researched area." (*ibid*: 105) According to her, one of the main reasons behind such paucity of speaking research is that: "In needs analyses it normally emerges as the least needed skill" (*ibid*: 105) She adds that: "If not a need, speaking is often a want, since in many students' opinions oral proficiency is the best indicator of mastery of a language."(*ibid*: 105) In view of Robinson's statement, though EAP speaking is not the top priority skill of EAP students, it remains a want of many students.

As regards what EAP speaking entails, Jordan (1997:193) explains: "Speaking for academic purposes is an overall term used to describe spoken language in various academic settings."Among the speaking activities, students may need in EAP classes, Jordan singles out the following examples:

- Asking questions in lectures;
- participation in seminars/discussions;
- making oral presentations; answering ensuing questions/points;
- verbalising data, and giving oral instructions, in seminars/workshops/ laboratories

(*ibid: 193*)

Thus, teaching EAP speaking focuses on communicative activities that promote speaking practice and oral interaction. In this respect, Alexander and et al (2008, 19) state that: "The word purpose is *key* in EAP. Language is always acquired for and through an academic purpose" They add that:"The most rewarding aspect of teaching EAP is, however, seeing students becoming increasingly competent at academic tasks."(*ibid*: 21)That is to say, EAP teachers should develop purposeful speaking tasks whose aim is firstly to raise students' awareness about the key features characterising spoken language in their respective academic disciplines and secondly to create communicative situations to practise it as much as possible.

In the same line of thought, Celce-Murcia and Olshtain (2000, 176) affirm that: "Speaking activities and speaking practice in the classroom should enable students to gain experience using all the "prerequisites", for effective oral communication."This implies that EAP students might need intensive practice and training in a variety of speaking tasks so as to ensure that they can express themselves and communicate effectively in their academic fields. As concisely and elegantly expressed by Cunningsworth (1983:149): "Language teaching should prepare learners for real language use beyond the confines of the classroom."

Another worthy point highlighted by Alexander and et al (2008: 7) is that:

> "Both teachers and students in EAP are learning about the target academic community... EAP teachers bring to the classroom linguistic expertise and knowledge of teaching methodology. Students may bring expertise in their subject disciplines."

To sum up, venturing forth upon teaching EAP skill is too challenging. However, EAP teachers armed with a sound theoretical knowledge, a creative spirit, a sense of commitment and more importantly a readiness and willingness to adjust , refine and discuss their speaking lessons with their EAP students might hopefully bring about good results.

1.5.5. Assessment and Course Evaluation

In the multi-step process of course design: assessment and course evaluation refer to the last phase. Yet, in every day practice assessment and evaluation are part and parcel of each lesson .Virtually, all the teachers assess and evaluate their students as the course progresses either implicitly or explicitly so as to check their progress, their attitudes, their language ability and to identify any linguistic problems or difficulties and add the remedial work needed to help them master what seemed difficult for them.

In fact applied linguists and EAP theorists claim that the concepts of course evaluation and learners' assessment are too broad concepts and overlapping to a certain extent .Though they do exist along the course and may refer to an on-going judgement of the learners and the individual lessons, the key difference is that learners' assessment run at the end of the course in conjunction with the post- course evaluation enable EAP course designer to measure the efficacy of the course and eventually to identify its strengths and its weaknesses so as to refine the course for possible future similar teaching situations.

1.6 CONCLUSION

Throughout this theoretical chapter, the researcher has attempted to cast light on the fundamental concepts framing this topic of investigation. Therefore, the chapter outlined the development of EAP from a mere branch of ESP to a discipline on its own right. It also shed light on English for medical purposes and put stress on its importance in the quest of medical knowledge. It also laid stress on audio-visual instruction with special reference to the use of videos and PowerPoints in language classes. The last point raised in the chapter revolved essentially around the pedagogic precepts underpinning EAP course design.

After paving the ground to a sound empirical study through this selected review of literature, the researcher will shift to a description of the practical part of this small scale classroom research in the following chapter.

EXPERIMENTAL RESEARCH METHODOLOGY: THEORETICAL CONSTRUCTS AND DATA COLLECTION TOOLS

EXPERIMENTAL RESEARCH METHODOLOGY: THEORETICAL CONSTRUCTS AND DATA COLLECTION TOOLS

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2.7. CONCLUSION

2.1. INTRODUCTION

In an attempt to provide a clear and an accurate view of the case under study. This chapter offers a detailed description of the teaching learning situation. First of all, it sheds lights on the status of English at the tertiary level in general, then in the faculty of medicine in particular. It also explains the rationale behind the selected research design and the key variables around which the research revolves. It also describes the participants involved in this study and explains how they were assigned into control and experimental groups. The remaining sections of this chapter are devoted to the description of the different data collection tools used to confirm or refute the research hypotheses.

2.2. A BACKGROUND ACCOUNT OF ENGLISH AT THE TERTIARY LEVEL

A glance back at the history of English language teaching in Algeria shows that educational policy makers have always strived to improve the quality of English teaching from middle school to university. The best evidence is the number of reforms undertaken at all levels since the independence.

The last radical reforms came in response to the demands of globalization. The Ministry of National Education has implemented the competency based approach (CBA) at the middle and secondary schools. Thus, the textbooks were changed, new curricula were designed and consequently the national exams the Brevet and the BAC exams were modified accordingly. The purpose of such reforms was to form new generations of learners who are autonomous and competent enough in English.

Likewise to meet the requirements of globalization or the newly established world order, the Ministry of Higher Education and Scientific Research in its continual quest for excellence replaced the classical system with the LMD system in all the EFL departments. The acronym LMD stands for Licence Master Doctorate. It is a literal

translation of the acronym BMP, standing for Bachelor-Master-Philosophia Doctor which is a uniform structure referring to the Anglo –American higher education. with a bachelor degree of three years, a two-year masters and a three-year PhD.

The LMD system was an ultimate consequence of globalisation that Algeria like other countries couldn't escape and was compelled to implement it, to meet the needs of a global academic industry and .to align Algerian higher education with international systems and standards and to place the Algerian universities on equal footing with their counterparts in developed countries.

Concerning the status of English in the other disciplines or departments, it is worthy to mention that English is introduced as a compulsory subject module in almost all the disciplines. It is included in exact sciences like Maths, Physics, chemistry, telecommunication, computer science, civil engineering, biomedical engineering. It is also taught in Biology and Economics and in their sub fields and it is also included in social sciences like sociology, psychology and political sciences.

2.3. THE STATUS OF ENGLISH AT THE FACULTY OF MEDICINE

In Algeria, English is not the language of medical instruction. Medical education is carried only through French. In medicine English has no official place within the medical curriculum neither at graduation nor at post- graduation. In fact, what is really shocking in the faculty of medicine is that first and third year students of pharmacy and first year students of dental surgery have English courses of one hour and a half once a week. However, students of medicine have no English module.

2.3.1. The Faculty of Medicine

The faculty of Medicine is an educational and scientific institution within the university Abou Bakr Belkaid Tlemcen whose mission is to train knowledgeable and highly skilled medical professionals; doctors, surgeons, dentists and pharmacists who are able to provide the necessary health care services for the community.

The faculty comprises three departments:

- The department of Medicine
- The department of Pharmacy
- The department of Dental Surgery

The admission to any of the three departments is solely based on the applicants grade average in the national exam (the Baccalaureate). The cut off average required for admission in medical specialities such as Medicine, Pharmacy and Dental Surgery is very high compared to other disciplines. Therefore, the faculty opens its doors to welcome the brightest and the most successful baccalaureate holders from Scientific and Mathematical streams.

As regards medical studies in the department of Medicine. Medical students are granted the diploma of doctor in medicine after the completion of seven years, comprising three years of pre- clinical studies and three years of clinical studies and a practical year in Tlemcen University Hospital Dr. Tidjani Damerdji. The following table offers an overview of the medical curriculum .

Undergraduate Level	**The Pre-Clinical Cycle**	1st year 2nd year 3rd year	teaching focuses on basic biomedical sciences like: chemistry, biochemistry biology, physics, biophysics and biostatistics, embryology,... etc
	The Clinical Cycle	4th year 5th year 6th year	teaching focuses on human organ systems and pathological processes in more detail like: Cardiology, pneumo- phtysiology, bacteriology, infectious diseases, psychology, gynecology/obstetrics. traumatology, urology, pediatrics, endocrinology., ophthalmology, dermatology, social medicine.
	The Internship	7th year	12-months full-time internship at Tlemcen University Hospital Dr. Tidjani Damerdji, including 4 obligatory internships of 03 months

	The Internship	7th year	each in the following departments : ▪ General Medicine ▪ General Surgery ▪ Gynecology/Obstetrics ▪ Pediatrics
Residency National Exam	a highly competitive national exam		
Postgraduate Level	**The First Cycle**	Duration of Studies : 03 to 05 years	It involves training residents towards specialised medical studies to get the (DEMS), Diploma of Specialized Medical Studies
	The Second Cycle	Duration of studies : 04 to 05 years	It leads to more advanced medical studies: the Doctorate in Medical Sciences (DESM).

Table 2.1. An Overview of the Medical Curriculum

Thus, upon the successful completion of seven years, medical students are granted the diploma of Doctor in Medicine and can work as general practitioners in any part of the country. Students who sit for the residency exam and succeed will opt for medical specialities according to their grade. After that ranking exam, students can start as residents in the specialty they have been able to choose to become specialists. Being general practitioners or specialists, doctors share a common denominator which is ensuring adequate health care.

2.3.2. English Courses at the Faculty of Medicine

In the faculty of medicine, in pharmacy and dental surgery curricula English language instruction is mandatory. Students are taught English related to their specific disciplines and are tested in the module of English. The official teaching load is of one

hour and a half a week. As indicated so far, English is not included in the curriculum of medicine.

In April 2010, the dean of the Faculty of Medicine in a collaboration with the CEIL (Centre of Intensive Teaching of Languages) introduced two courses for Medical English, one for specialists and teachers at the faculty of medicine, the other for residents, most of them were surgeons. The courses were elective, not compulsory and free of charge, residents and teachers were free to join the courses. The courses lasted approximately three months. In November 2010, other courses were introduced, again one course for doctors teaching at the faculty of medicine and the other course for both graduate and post -graduate medical students. The courses lasted a whole year.

After that the collaboration between the faculty of medicine and the CEIL stopped, despite the increasing demand on the part of students. In 2011, the researcher after seeking the authorisation of the dean of the faculty of medicine was able to carry out the present research, she was oriented to post -graduation responsibles who advised her to choose second year or third year residents as subjects for this study.

2.4. RESEARCH SAMPLE POPULATION

The subjects of this study are all third year post graduate medical students from different medical specialities such as: cardiology, oncology, general surgery, gynaecology, dermatology, paediatrics, psychiatry, internal medicine, legal medicine, haematology and nuclear medicine.

As for the total number of third year post graduate medical students for this academic year 2011-2012, it is 75 residents(according to the list furnished by post-graduation administration). The research started off with 34 students, then after some necessary selections only 24 students participated in the study.

The researcher opted for post graduate students because at this stage students are constantly asked to do some research work and presentations for their coursework and most of the best medical literature and the latest medical research is published in English. Therefore, students are likely to need English instruction at this level.

Moreover, the researcher was advised by the post graduation vice-dean who is a professor in legal medicine and his colleagues not to conduct this research with first and fourth or fifth year residents. They stated that in the first and the last year of speciality, residents work so hard to pass the end of the year national medical exams. Accordingly, it is too risky to engage in research with them because they might not attend the English course regularly.

2.5. RESEARCH METHODOLOGY

One of the salient aspects of English language teaching (ELT) in Algerian middle and secondary schools still missing is the teaching and testing of the speaking skill. Though communicative language teaching was officially underlined as a key teaching objective in ELT methodology in Algeria, and though the CBA was implemented to promote English teaching and learning, the reality is that in practice the speaking skill is all too often neglected for one reason or another and this is beyond the scope of this study. Nevertheless, the absence of a speaking test in BEM and BAC exams is clear evidence why students reach university with poor speaking abilities.

The raison d'être of the present research is to try out the use of medical videos and PowerPoint presentations to help medical students to develop their pronunciation, to widen their medical and general vocabulary, to brush up their grammar and to equip them with the most necessary and useful expressions to switch off from one medical topic to another with ease. In other terms, to help the students to speak medical English with ease and clarity.

2.5.1. Research Questions and Hypotheses

The present research is set out to find out whether or not the use of audio - visual instruction helps medical students to develop their speaking skill. As this question is too broad to tackle in depth, it was subdivided further into more manageable questions. The sub - questions guiding this small scale classroom research are as follows:

1. What do medical students need to learn to speak medical English in academic settings with ease and clarity?

2. Does the use of audio-visual materials along with meaningful teaching tasks help medical students to develop their speaking skill?

3. Is an audio-visual course more beneficial than a course based solely on chalkboard, texts, worksheets, flashcards and posters to develop medical students' speaking skill?

In response to these questions the following hypotheses are put forward:

1. Medical students need to learn and to widen their knowledge of the different linguistic features of medical English mainly grammar, general and medical vocabulary, as well as correct pronunciation to speak medical English in academic settings with ease and clarity.

2. A wise and a judicious use of audio-visual materials along with well-structured speaking tasks may help students to develop their speaking skill significantly.

3. An audio-visual course is probably more beneficial and fruitful than a course based solely on chalkboard, texts, worksheets, flashcards and posters to develop medical students' speaking skill.

2.5.2. Research Design

In an attempt to ascertain the research hypotheses on practical ground, the experimental research design seems to be the most appropriate to study the possible effects of audio-visual instruction on the development of the speaking skill to medical students. In fact, there is consensus among research methodologists like Dörnyei (2007), Nunan (1992), Mujis (2004) to name just few that experimental research is the most suitable to determine a positive or a negative cause-effect relationship. In view of this, Dörnyei (2007: 120) stresses that:

> The main strength of the experimental design is that it is the best method – and some would claim the only fully compelling method – of establishing cause-effect relationships and evaluating educational innovations.

Accordingly, the experimental research is well suited to the nature of the present investigation. At this point, it is worthy to mention that: "Experimental research in the social sciences follows the same pattern as those (natural) science experiments."Muijs (2004, 13) Thus, Conducting an experiment requires setting up the necessary conditions to test, prove or reject a given hypothesis. Muijs explains further that:

> The basis of the experimental method is the experiment, which can be defined as: a test under controlled conditions that is made to demonstrate a known truth or examine the validity of a hypothesis
>
> (*ibid*: 13)

Furthermore, experimental research itself encompasses three different types of research. Their common denominator is that they are all based on some kind of experimentation but there are some key differences that set them apart. Nunan(1992) proposes the following table to illustrate the salient characteristics of each type.

Type	Characteristics
Pre-Experiment	May have pre-and post treatment tests, but lacks a control group
Quasi-Experiment	Has both pre-and post tests and experimental and control groups, but no random assignment of subjects.
True-experiment	Has both pre-and post tests and experimental and control groups, and random assignment of subjects.

Table.2.2.Contrasting Pre- experiments, Quasi -experiments, True-experiments (Source: Nunan1992: 41)

In true and quasi experimental studies and before launching the experiment, the research subjects are usually divided into two, three or even more groups that should have the same characteristics ,i.e. they should be as much as possible identical to each other. During the experimentation phase, one group called the control group is not exposed to any experimental treatment, whereas the other groups are referred to as experimental groups because they receive varying degrees of experimental treatment. The control group serves as a baseline or a standard against which experimental results obtained in experimental groups are compared, contrasted and explained.

In the present study, the researcher chose neither the pre-experiment design nor the true-experiment. The former is always criticised as the weakest design because it is a single group design which lacks a control group and random sampling of participants. The latter is considered the best design because it embodies all the necessary elements that make an experiment rigorous, a control group, random selection of participants and random assignment to groups.

The researcher opted for the quasi-experimental research because it is almost impossible to assign medical students randomly to control and experimental groups. Besides, the nature of the research entails the formation of two groups: a control group and experimental group equal in terms of speaking level, that is why quasi-experimental research is the most suited for the purposes of the present study.

2.5.3. Research variables

To determine cause effects relationships in a quasi-experimental study, the researcher needs to control the experiment as much as possible, so as to focus essentially on the key elements or aspects driving the study and which are usually referred to as "variables". In this respect, Cohen (2007:272) asserts that:

> The essential feature of experimental research is that investigators deliberately control and manipulate the conditions which determine the events, in which they are interested, introduce an intervention and measure the difference that it makes.

In the same line of thought, Cross and Belli (2004:332) point out that:

> An experiment requires the researcher to manipulate something and observe the effect of that manipulation on something else...What he manipulated and what he observed are called variables.

At this point, it is worthy to mention that in classroom based research, a variable refers to learners' characteristics such as motivational attitudes or linguistic abilities that are changing or static over the period of instruction. Cohen (2007:504) notes that: "a variable can be considered as a construct, operationalized construct or particular property in which the researcher is interested."In the same vein, Brown (1988:8) explains that: "A variable is essentially what we can observe or quantify of the human characteristics or abilities."He also mentions that there are different types of variables such as: dependent and independent variables.

2.5.3.1. The Independent Variable

The independent variable is also referred to as the manipulated variable. When conducting a quasi-experimental study, the researcher purposefully changes a selected element over the course of instruction and observes its effects on the learners and learning outcomes. Cohen (2007:504) asserts that:

> An independent variable is an input variable, that which causes, in part or in total, a particular outcome; it is a stimulus that influences a response, an antecedent or a factor which may be modified (e.g. under experimental or other conditions) to affect an outcome.

In the present quasi-experimental study, the independent variable is the use of audio- visual materials which include:

1- Medical Videos retrieved from u tube and medical websites .Some medical videos were used in class without any modification while others were modified using some special software to fit the purposes of the lessons.
2- Powerpoints presentations of medical topics developed by the researcher herself for the purposes of instruction.

2.5.3.2. The Dependent Variable

In experimental studies, the dependent variable, as its name implies is the variable the researcher believes to be influenced by the independent variable. It. is the variable which is not manipulated but rather observed and likely changes, as the independent variable changes. Cohen (2007:504) defines it as follows:

> A dependent variable, on the other hand, is the outcome variable, that which is caused, in total or in part, by the input, antecedent variable. It is the effect, consequence of, or response to, an independent variable.

In the present study, the dependent variable is embodied in the speaking skill as measured with speaking tests.

In an attempt to offer a better view of this quasi-experimental study, the following diagram demonstrates how medical students were selected and assigned into control and experimental group. Therefore, it shows the main steps of the selection process and the subsequent steps of the experiment.

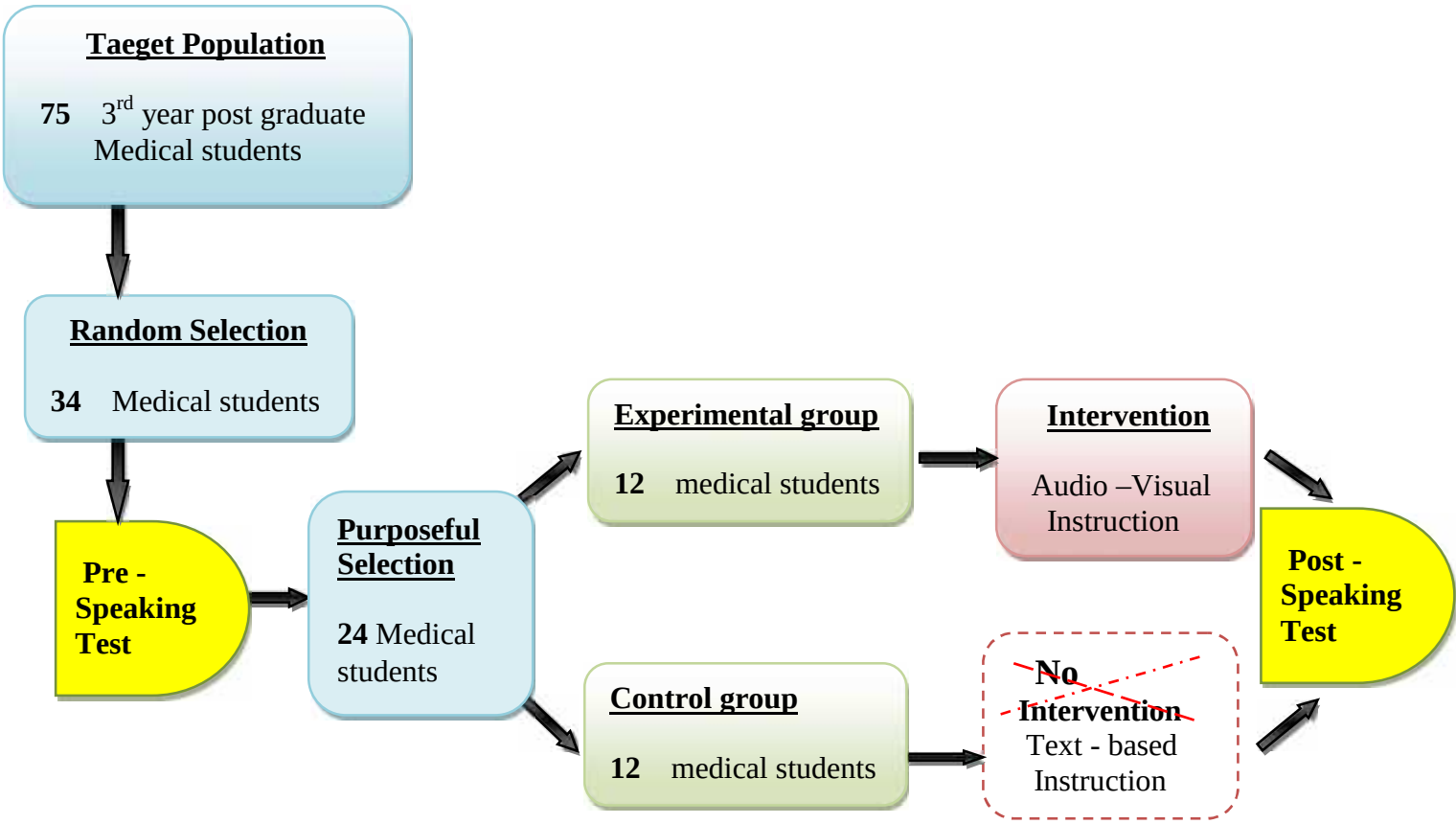

Figure.2.1.The Basic Steps of the Experiment

2.6. RESEARCH INSTRUMENTS

Within the research methodology literature, most of research methodologists in language teaching agree on the use of a mixture of quantitative and qualitative research methods to investigate a teaching, learning problem from all its facets. The rationale behind such a combination of methods as stated by Lazaraton (2005:219) lies in the fact that each method "highlights 'reality' in a different, yet complementary, way". (quoted in Dornyei 2007: 313)

In the same line of thought, Dornyei strongly advocate the use of "a mixed methods research design in every situation". (*ibid*, 313) He supports his claim by quoting similar research recommendations proposed by other research methodologists, such as Greene and Caracelli's assertion that: "In theory, mixed methods inquiry can be a means for exploring differences..., or an opportunity to better understand different ways of seeing, knowing, and valuing . (Greene and Caracelli's (2003:107) quoted in Dornyei 2007, 313).Thus, mixed- methods classroom research is highly recommended.

As examples of quantitative and qualitative research methods in EAP research, Jordan(1997: 275) states that:

> The research methods can be divided into quantitative (e.g. test score and other statistical analyses) and qualitative (e.g. interviews and subjective assessments).The results of one method can often act as a check on, or explanation of, those of other methods.

In the present small scale EAP classroom research, the researcher has opted for a combination of quantitative and qualitative data collection tools: speaking self-assessment checklist, pre and post speaking tests, an interview, a questionnaire and the researcher's classroom observation diary. The ultimate aim of such instruments selection is to try as much as possible to gather enough data so as to tackle the research problematic with great care.

2.6.1. Speaking Self -Assessment Checklist

Self -assessment checklists are widely used in the context of ESP/EAP research. Jordan (1997:31) states that: "students can be asked to assess themselves. There are various ways of doing this: most involve the use of questionnaires, forms or checklists." In comparison to questionnaires, Dudley-Evans and St John (1998:133) stress that: "Checklists are narrower in scope and more commonly used for a qualitative feel. They can determine facts or attitudes."

Unlike other NA data collection tools, checklists structure and content allow the researcher to extract only the necessary information needed. Moreover, they induce the students to reflect on their linguistic abilities and to complete a given list of items arranged in particular order. As a description of checklists layout Jordan (1997:31) explains:

> A straightforward way is for the students to complete a form indicating their ability at, for example, the language skills of listening, speaking, reading and writing, perhaps on a rating scale ranging from very good to poor, or numbered (1-5or 1-10), which has to be ticked or circled, etc. They could also be asked if they can carry out certain tasks in English, indicated by yes/no or graded. Additionally they could be asked to list language/skills areas in which they need practice.

For NA and evaluation purposes, a speaking self-assessment checklist was administered to students before and after experimentation. The rationale behind the use of such an instrument is to induce the learners themselves to identify their speaking level before the experimentation, and to assess what they can do after speaking instruction with and without audio-visual materials.

The speaking self- assessment checklist consists of two parts. In the first part students identify their speaking level according to the CEFR[1]descriptors, whereas in the second part they assess their speaking ability about medical issues. In other terms, the first part the of speaking self- assessment checklist is exactly the CEFR speaking self- assessment checklist which is a list of can do statements about their speaking abilities and the second part represents a list of can do statements related to the medical field and students state whether they can speak about the selected medical items.

[1] CEFR : Common European Framework of Reference for Languages. It is a is an internationally recognised framework and a reliable benchmark that describes 6 levels of language ability from A1 for beginners up to C2 for those who have mastered a language. It states what a language learner is expected to do at six specefic levels : A1 -A2, B1 -B2 ,C1- C2. (see additional information at the end of the chapter).

Though speaking self-assessment checklists are designed in a way to guide the participants to make judgement about their actual speaking abilities, the information they provide remain subjective. There is no doubt, they are effective elicitation tools since they help the participants to reflect on their linguistic abilities and to assess their strengths and weaknesses. Nevertheless, a pre and a post-speaking tests are mandatory. Like an X-ray or an ultrasound scanner test, speaking tests allow the researcher to make an accurate diagnosis of the participants' speaking level, to identify their speaking difficulties and to determine their actual entry and their exit speaking level.

2.6.2. Speaking Tests

In EAP courses, in general the course starts with an entry test and finishes with an exit test. It is the golden rule and in quasi-experimental research in particular a pre- and a post-speaking test constitute the sine qua'non of the experiment. Thus, the nature of the present study requires both a pre- and a post speaking test.

In practice, developing and administering speaking tests are really difficult. Madsen (1983:147) affirm that: "The testing of speaking is widely regarded as the most challenging of all language exams to prepare, administer, and score."Indeed, speaking tests are really time-consuming; their preparation requires too much time and effort on the part of the teacher and their correction too is difficult. In addition to that the students must be tested individually.

2.6.2.1. The Pre- Speaking Test

The researcher devised the pre-speaking test primarily to measure the different aspects of the participants' speaking ability. Therefore, she opted for the following five oral testing techniques:

- Read aloud
- Summarising
- Identifying a medical problem and proposing a plausible solution,
- Answering a set of questions
- Describing pictures related to a medical condition

These oral elicitation techniques differ from each other, but together in a single oral test allow the researcher to detect the participants' speaking difficulties. Concerning reading aloud, Heaton (1975:89) reports that:"Many present day oral tests include a test of reading aloud in which the student is given a short time to glance through an extract before being required to read it aloud."In the same vein, Madsen (1983:155) adds:

> There are basically two types of reading-aloud tests. One type is a group of sentences that are usually unrelated to each other. The other type is a passage of connected prose. The first permits fairly easy scoring. The second type is more difficult to score, but is often used to diagnose student errors.

In read aloud, there is no harm if the testers use more than one passage, as Underhill (1987:76) suggests: "Two or more passages can be used...to widen the variety of language used." He explains that: "the passages can be of different types, specialised technical or academic English as opposed to a general descriptive passage, for example."(*ibid*: 76)

In the pre-speaking test, the researcher didn't use unrelated sentences but rather two short texts. The first text "Modern Surgery" is taken from www.onefd.edu.dz[2], originally intended for second year high school students so it is not difficult for the participants, the second text "The Spread of Infection" is taken from a medical text book. At this point, it is worthy to mention that the main advantage of read aloud is that all the participants read the same selected texts, a fact that helps the researcher to examine especially pronunciation mistakes and fluency. Obviously, read aloud technique, as its name indicates does not measure speaking interaction not even speaking production, that is why it should not be used alone in a speaking test.

[2] www.onefd.edu.dz : the official website of the national office of teaching and training Algerian middle and high school pupils at distance to prepare them for the national exams the BREVET and the BAC exams.

Another more effective way to measure students' ability to speak about a medical topic is summarising technique. On one side students must recall the key points of a medical text, on the other side they must sum up the essential ideas using their own words. This technique measures speaking production and shows whether students can produce well-constructed oral summaries about medical texts.

The third technique is the identification of a medical problem and suggesting a plausible medical solution. This technique is more challenging than the preceding ones because the participants read an ambiguous medical case, find out the medical problem based on the patient's complains and propose a solution. Obviously, this oral elicitation technique measures basically speaking production.

The fourth technique is one of the overused techniques in oral or speaking tests. It is question and answer technique. This straightforward technique as its name implies is merely a set of questions graded from the easiest to the most difficult addressed to the participants so as to obtain some specific information.

In the pre-speaking test, the questions were divided into two categories: general questions and topic-based questions. The first set of questions seeks personal information about the participants themselves. These questions show whether the participants can speak at some length about themselves and about their respective medical specialities. The topic - based questions revolve about smoking which is a well-known topic. There is no doubt that students have plenty of medical information about smoking in French but the objective of these questions is to see if the participants can translate their French information into English.

The last technique is picture description and discussion. According to Heaton (1975:92) "Pictures, maps, diagrams can be used in oral production tests."Indeed, literature about oral testing techniques reveals that in general English speaking tests, the testers can use either one picture or a series of pictures to be described and discussed by the students. They can be used also for narrating a story, or for giving a

set of instructions or even for making comparisons to find possible differences. In the pre-speaking test which is designed specifically to assess students' ability to speak about medical topics and more importantly to identify their speaking difficulties so as to design a speaking course according to their real level; the researcher asked students to discuss different pictures related to Scoliosis. The pictures represent some cases of patients with scoliosis, some pictures showing the risk factors and others showing treatment options.

As demonstrated, the researcher used a variety of oral test techniques on purpose, as Underhill (1987:38) points out: "It is more authentic to use a mix of techniques with the learner doing different things with the language."He also stresses that: "A good test will reflect different types of language use." (*ibid*: 38) Taking this in consideration, the pre-speaking test covers five speaking tasks different from each other and tackling different medical themes. In the same vein, Underhill maintains that "An oral test of language for academic use, for example might naturally require a sequence of tasks." (*ibid*: 38) He adds that: "A sequence of test tasks allows a more balanced test to evolve." (*ibid*: 38)Therefore, the researcher varies the speaking tasks as it is highly recommended by Underhill and mainly to elicit representative samples of each participant's speech.

Furthermore, the test was administered individually. The researcher was striving to make the testees who were afraid of the test to feel relaxed, explaining to them that the test was a necessary procedure to identify their speaking level and to design an appropriate speaking course. Moreover, to lessen students' fear and anxiety, the researcher did not give a copy of the whole test to the students so as not to embarrass them with the number of tasks. Instead, she gives each student the first text to read silently, then to read it aloud. After that she gives her/him the second text.to read it aloud.In the second task, she gives the student a text about "Antibiotics" to summmarise. In the third task, she gives the students, a short paragraph(in a piece of paper) about a medical problem to be solved.In the fourth task, she asked the student some questions and in the last one she shows the student some pictures related to scoliosis to be described and discussed.The following table specifies better the pre-speaking test content and the complete copy of the test is kept in the appendices.

Number of tasks	Task Type	Evaluation Criteria
1	**Reading aloud :** "Modern Surgery" "The Spread of Infection"	▪ Pronunciation ▪ Fluency
2	**Summarizing a medical text orally:** "Antibiotics"	▪ Pronunciation ▪ Fluency ▪ Grammar ▪ General vocabulary ▪ Medical vocabulary ▪ Information provided
3	**Identifying a medical problem and proposing a solution**	▪ Pronunciation ▪ Fluency ▪ Grammar ▪ General vocabulary ▪ Medical vocabulary ▪ Information provided
4	**General questions** ▪ Introduce yourself ▪ Why did you opt for this discipline (Medicine)? ▪ What qualities make a good doctor / surgeon ? ▪ What speciality do you like most? Why?	▪ Pronunciation ▪ Fluency ▪ Grammar ▪ General vocabulary ▪ Information provided
	Topic - based questions ▪ What effects does nicotine have on the body? What are the health risks of smoking? ▪ Can tobacco affect non smokers? How? ▪ How to quit smoking? ▪ What are the withdrawal symptoms of smoking? How long they usually last?	▪ Pronunciation ▪ Fluency ▪ Grammar ▪ General vocabulary ▪ Medical vocabulary ▪ Information provided
5	**Describing and discussing photos about scoliosis**	▪ Pronunciation ▪ Fluency ▪ Grammar ▪ General vocabulary ▪ Medical vocabulary ▪ Information provided

Table 2.3. Description of the Pre-Speaking Test

As illustrated in the table, in the first task the researcher was examining only pronunciation and fluency, whereas in the other tasks she was assessing pronunciation, fluency, grammar, general vocabulary, medical vocabulary and she was also examining the nature and the length of the information provided. Undoubtedly, assessing so many criteria at once was almost impossible without recording. Therefore, the researcher recorded students' answers on a mobile dictaphone for later analysis.

In the correction process, the researcher transcribed the answers of each student.The correction was difficult and quite demanding, the researcher was examining the recording and the script using a speaking evaluation grid to mark the pre-speaking test. As aforementioned, speaking tests are not only time- consuming but effort-demanding as well.

2.6.2.2. The Post- Speaking Test

The post-speaking test also called the achievement or the summative test is administered at the end of the experimental phase to examine how much medical students have learnt in the control and the experimental groups and thereby to judge the effectiveness of the audio-visual method to teach English for medical academic purposes and mainly to develop the speaking skill. The test may as well indicate the language problems still occurring in students' speaking..still face in their speaking

For research purposes and in an attempt to conduct a sound comparison between pre and post speaking test results, the post- speaking test differs from the pre-speaking test only in terms of the medical topics, it covers and the degree of tasks complexity. Both tests have the same number of speaking tasks and in both of them the researcher stuck to the same oral elicitation techniques. To have an overall view of the post-speaking test, the following table describes the test tasks and for a fuller picture,the test is kept in the appendices.

Number of tasks	Task Type	Evaluation Criteria
1	**Reading aloud :** "Duodenal Ulcer: Clinical Features"	▪ Pronunciation ▪ Fluency
2	**Summarizing a medical text orally:** " Diabetic Retinal Complications"	▪ Pronunciation ▪ Fluency ▪ Grammar ▪ General vocabulary ▪ Medical vocabulary ▪ Information provided
3	**Identifying a medical problem and proposing a solution**	
4	**General questions** ▪ Do you like day or night shift better? Why? ▪ Could you briefly describe your department, the medical staff working with you, the medical services you provide and possibly the number of patients? ▪ Do you have the spirit of team in your department? ▪ What are your future medical projects? **Topic - based questions** ▪ What are the main risk factors of birth defects? ▪ What are the physical and mental features of trisomic children? ▪ Can gynecologists identify trisomy 21 during prenatal screening? ▪ Do parents who have a child with Down Syndrome have an increased risk of having another child with Down Syndrome in future pregnancies? ▪ Are trisomic individuals at increased risk for certain medical conditions?	
5	**Describing and discussing photos about breast cancer**	

Table 2.4. Description of the Post-Speaking Test

To put it in a nutshell, it would be no exaggeration to say that, speaking tests offer accurate and valuable information about medical students' speaking level before and after experimentation. Indeed, the researcher may not otherwise obtain such information through other data collection tools. Nevertheless, while the pre-speaking test can answer the question: What are the participants' speaking difficulties in the pre-experimental phase? It cannot answer the question: Why the participants have such speaking difficulties? In fact, there are a number of questions pertaining to the issue of speaking that require the use of other data collection tools

2.6.3. The structured Interview

Unlike other data collection tools, the interview which is by definition a guided conversation between the interviewer and the interviewee allows the researcher to interact face to face with the informants and extract possibly further necessary information about their speaking difficulties. Cannell and Kahn (1968) define research interview as:

> a two- person conversation initiated by the interviewer for the specific purpose of obtaining research - relevant information and focused by him on content specified by research objectives.
>
> (Quoted in Cohen, 351:2007)

In the same line of thought, Lapan (2004, 241) stress that:

> The face- to- face interview is one of the best sources of information. Perspectives gained through this give-and-take process represent more than points of view; they offer insights into special knowledge that only participants possess.

In research methodology, there is a wide range of interview types differing to varying degrees. In the present study, the researcher opted for the structured- interview which is characterised by asking all the interviewees the same set of questions, in the same order. As described by Dudley-Evans and St John (1998: 135):

> Structured interviews consist of questions which have been carefully thought out and selected in advance. Because the interviewer has key questions which everyone is (and must be) asked; comparisons can be made. Additional questions may be asked to follow up responses for clarification and more detail.

In the same line of thought, Mackay (1978:22) strongly advocate the use of structured-interviews for NA purposes. Therefore, he enumerates the associated advantages of this conversation-like data collection tool. He emphatically asserts:

- Firstly, since the gatherer is asking the questions, none of them will be left unanswered as frequently happens in questionnaires.
- Secondly, the gatherer can clarify any misunderstanding which may crop up in the interpretation of the questions
- Thirdly and perhaps most advantageously, the gatherer can follow up any avenue of interest which arises during the question and answer sessions but which had not been foreseen during the designing of the structured interview.

In the present quasi-experimental study and in an attempt to get some fresh insights about the causes behind the participants' speaking difficulties a fifteen-minute structured interview was administered exactly after the pre-speaking test so as to help the participants who have just completed the speaking test to think back of the difficulties they experienced while answering or doing the different speaking tasks. For this reason and for time-saving purposes, the participants' answers were recorded

on a mobile phone dictaphone for later transcription and analysis.The structured interview was also necessary to extract further information about the following key points:

- Student's profile
- Student's attitudes to speaking English
- Student's attitudes to audio-visual
- Student's Needs
- Student's Suggestions

Therefore, the researcher grouped the interview questions under six rubrics corresponding to the points mentioned above. The structured interview in conjunction with the speaking self-assessment checklist and the pre- speaking test allows the researcher to identify students' speaking level and more importantly their speaking difficulties before embarking upon the experiment. Then, the researcher opted for classroom observation diary as soon as she launched the experiment so as to identify students' difficulties along the speaking course .i.e. along the experimental phase.

2.6.4. Classroom Observation Diary

In classroom-based research, classroom observation is widely used to observe and scrutinise as closely and thoroughly as possible a particular problem under study. According to research methodologists, classroom observation can take different forms and can be carried by different persons: the research participants themselves or outsiders, i.e. non-participants. As far as self-observation is concerned, Çakir (2010:6) points up:

> Like observation of other teachers, it is possible for teachers to video or audiotape their own teaching and review the tape while taking descriptive notes or making short transcripts of the classroom interaction to study. The focus here is on teacher's own development, rather than on developing the ability of a peer's or a colleague's.

Indeed, the ideal would be to use video recording for self - observation so as to examine a teaching-learning situation from all its facets. However, it was impossible to opt for such a choice, the researcher relied on a diary note-keeping in which she writes down regular notes and remarks immediately after each class period.

Furthermore, Classroom observation is not a straightforward activity to undertake, it is a challenging task that requires too much skill. As stressed by Richards (2001:61)

> Observation is a specialised skill. Knowing how to observe, what to observe, what to look for, and how to make use of the information obtained generally requires specialised training.

In the same line of thought, Dudley-Evans and St. John (1998:136) equally point that: "Classroom observation requires careful groundwork and handling."In other terms, the observer should prepare in advance a set of guidelines to frame the foci of observation so as not to overlook any significant point. Therefore, in the present study, the foci of classroom observation is summarised in the following table:

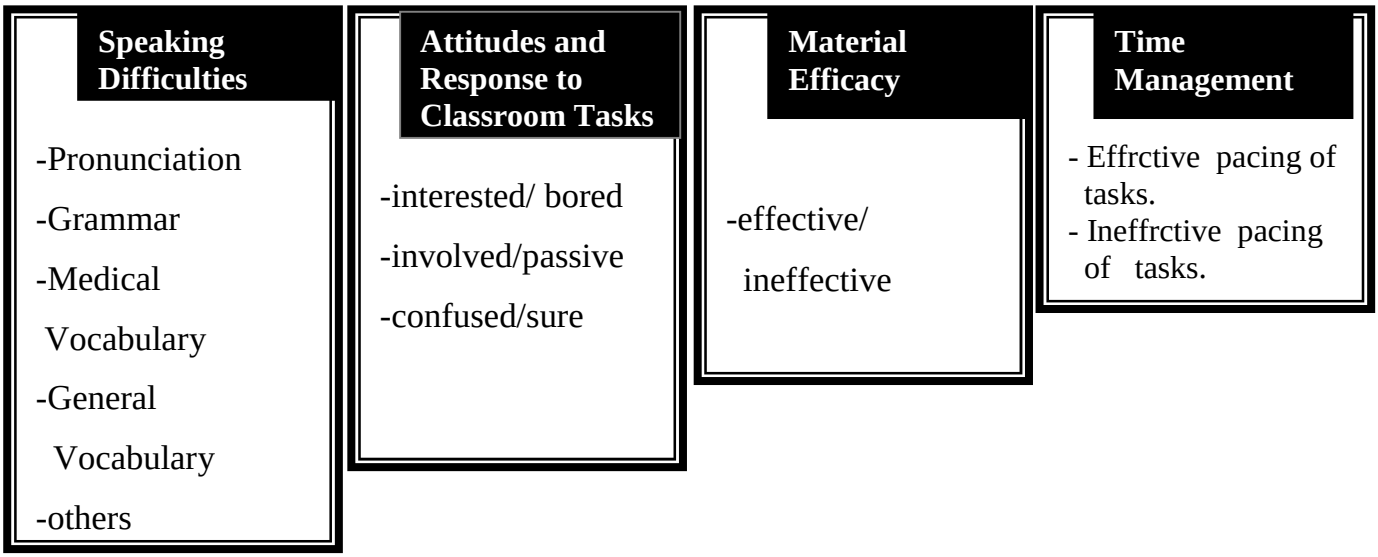

Table2.5. The Foci of Classroom Observation

As illustrated in the table, the classroom observation diary was organised in a manner to enable the researcher to gather information about:

- Students' speaking difficulties
- Students 'attitudes and ways of approaching classroom speaking tasks
- The effectiveness or the ineffectiveness of the teaching material
- Classroom time management

In fact, one hour and a half of teaching is full of events and the observer being herself the teacher and the researcher was faced with two challenging tasks: performing her duty as a teacher and at the same time doing classroom observation. Undoubtedly, she was bound to fail to notice some aspects of teaching, that is why she was compelled to delineate the foci of observation so as not to get lost in the labyrinth of classroom events. In other terms, the aforementioned classroom observation table helps the researcher during the observation process and more importantly to recall information during the writing up stage.

Moreover the aforementioned observation guidelines helped the researcher in the process of observation, both in the short and the long term, i.e. during individual lessons and along the whole course. In other terms, it allowed the researcher to recollect classroom events after the completion of each teaching period and it also helped her to compare the information compiled during the whole course of instruction.

Another important point about classroom observation is that it does not only investigate the whys and the wherefores of students' speaking difficulties, it also helps the researcher in adjusting, refining classroom speaking tasks and incorporating new ones. Indeed, classroom observation diary enables the researcher to recall the teaching events and to make self-analysis and self- criticism of her teaching style: questioning what works and what does not work in class and looking for better alternative techniques and more engaging speaking tasks.

To sum up, classroom observation diary was the most convenient data collection instrument for research purposes during the experimental phase.It was indeed information- rich journal about students' speaking difficulties and apparent progress along the experimentation. Nevertheless, other tools were required during the research final phase such as course evaluation questionnaire.

2.6.5. Course Evaluation Questionnaire

After the experimental phase, the researcher administered once again the same self-assessment speaking checklist to the participants so as to allow them themselves to judge their level after a long period of instruction. After that, the researcher conducted the post-speaking test to get more accurate information about students' exit level and speaking abilities and at the end, she distributed course evaluation questionnaires to all the participants to gather further data.

As already indicated in chapter one, course evaluation is extremely important in the context of EAP course design and in the present research context there are a good number of sound reasons for using course evaluation questionnaire:

- It is a time saving technique to elicit students' candid impressions about the speaking course content and conduct in both the experimental and control group.
- It is anonymous so students might not feel embarrassed to express their real opinions.
- It is easy to prepare, administer and later to analyse.
- It helps the researcher to identify any weak points of the speaking course in both the experimental and control group.
- It allows the participants themselves being the concerned to judge the effectiveness or the limitations of the speaking course in their respective groups.
- It helps the researcher to check whether the audio-visual speaking course has fulfilled the participants' language learning needs.

As regards the course evaluation questionnaire content, Smith: "urges a closer match between the questionnaire and the course it relates to."(Quoted in Robinson 1991, 70) In the same respect Jordan(1997:92) mentions that:

> All the main course components can, be listed, and opinions sought, on a scale…Students can also be asked to rate and compare items in the categories useful/valuable and interesting /enjoyable, and to indicate if more or less time should be spent on the components.

Taking this in consideration, the course evaluation questionnaire consists of an evaluation grid and additional questions. The points of focus of the evaluation grid are as follows:

- The speaking syllabus content.
- Classroom speaking Tasks
- Speaking sub-skills
- Patterns of interaction and class work
- Teaching Material

In the evaluation grid, students evaluate the course according to an evaluation scale from 1to 5 as follows: 1/extremely valuable ,2/ valuable, 3/ of some value, 4/ of little value, 5/ of no value. In other terms, the evaluation grid is a list of items about the aforementioned points and students rate their value and utility according to their own opinion by choosing a number from 1to 5.

To put it in a nutshell, the motive behind the use of the end-of-course questionnaire which is merely students feedback questionnaire is to allow the participants themselves in both control and experimental group to judge the speaking course they have undertaken from their own perspectives. The data collected through this instrument is of paramount importance because they allow the researcher to judge the effectiveness of the audio-visual course.

After describing the different instruments used in the present quasi-experimental study, it is necessary to mention that the researcher was compelled to use them all to cross check the research findings and to eliminate or at least to reduce her personal biases. In other terms, each instrument has strengths and limitations as well.

Obviously, triangulation strategy was necessary, so as the selected instruments will complement each other making the research results more convincing and more credible. In view of this, Mouton and Marais (1988, 206) point out:

> Since each method has restrictions, by combining several methods in the same study the restrictions of one tool are often the strengths of another.

In the same line of thought, Cohen et al(2007,141) stress that:

> ...triangular techniques in the social sciences attempt to map out, or explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint and, in so doing by making use of both quantitative and qualitative data.

Furthermore, the research data were not collected at one point only in time. They were gathered during three distinctive phases of this quasi-experimental research .i.e. the research instruments outlined earlier were conducted at specific phases. The following table illustrates better the different phases with the chronological order of the instruments.

Research Phases	Research Instruments	Objectives
Pre-Experimental Phase	▪ Speaking self-assessment checklist	To ask students themselves to identify and judge their: ▪ Entry speaking level
	▪ Pre-speaking test	The teacher herself identifies: ▪ Entry speaking level ▪ speaking difficulties
	▪ Structured interview	To elicit data about: ▪ Student's profile ▪ Attitudes to Speaking English ▪ Speaking Difficulties ▪ Attitudes to Audio-visual materials ▪ Needs ▪ Suggestions
Experimental Phase	▪ Classroom observation diary	▪ To identify students' speaking difficulties ▪ To examine students' responses to the speaking tasks and the teaching materials.
Post-Experimental Phase	▪ Speaking self-assessment checklist	To ask students themselves to identify and judge their: ▪ Exit speaking level
	▪ Post-speaking test	The teacher herself identifies : ▪ Exit speaking level ▪ speaking difficulties
	▪ Course evaluation questionnaire	Student judge the speaking course they have undertaken.

Table2.6.The Rresearch Phases

Before closing this chapter, it seems necessary to include this illustrative tree diagram that shows how and when the research data were collected and how they were analysed and interpreted.

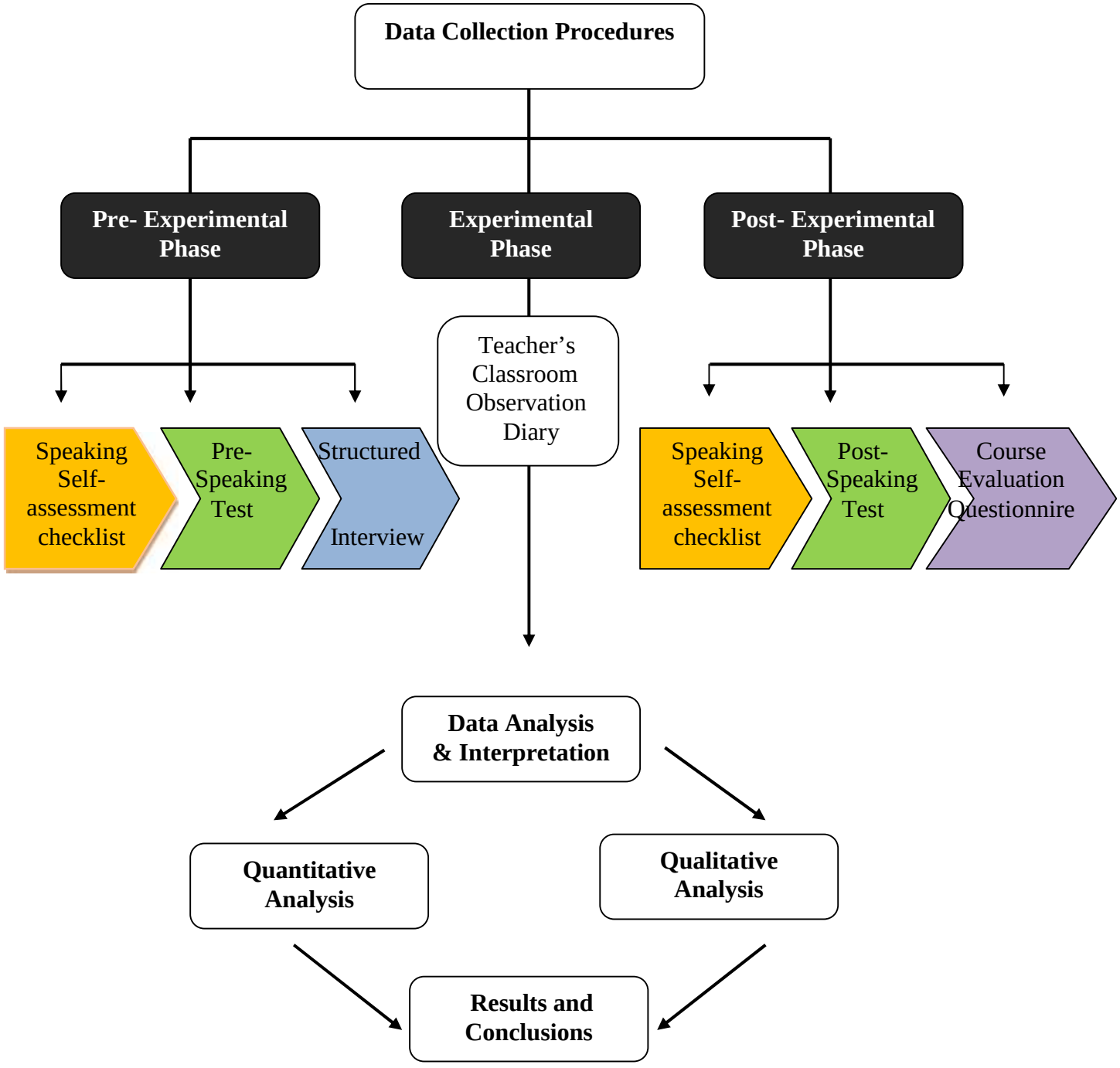

Figure2.2.Research Design

2.7. CONCLUSION

In this descriptive chapter, the researcher strived as much as possible to portray the practical part of this research process. Therefore, the chapter opened up with a background account of English at the tertiary level and the status of English at the faculty of medicine. At the core of the chapter, the researcher described the research subjects and delineated the scope and the boundaries of the present quasi-experimental study stressing on the key variables that constitute the axes of the research. The chapter also encompasses a detailed description of the selected research instruments coupled with justifications.

The data compiled through the different instruments and during three different phases of this multi-step quasi-experimental research will be sifted, analysed, compared and interpreted in the following chapter.

1-The CEFR : is the Common European Framework of Reference for Languages is an international standard for describing six reference levels of language ability.It was developed and launched by the Council of Europe in 2001 as a way of standardising the levels of language exams across Europe. The rationale behind the CEFR was to provide a set of comprehensive, practical and reliable guidelines for learning, teaching and assessing which can be applied to all languages in Europe. Nowadays, the CEFR is widely recognized internationally and increasingly used all over the world for the the elaboration of language syllabuses , the design of teaching and learning materials, and the assessment of foreign language proficiency. Add to that, most language course books in the market and important exams are mapped to the CEFR. Furthermore, theThe CEFR divides language learners into three categories : (A) Basic language users , (B)Independent language users and (C) proficient language users. Each category encompasses two sub levels as follows :A1 /beginner , A2/ elementary , B1 / intermediate, B2 / upper intermediate ,C1 / effective operational , C2/.proficient. Each level describes what a learner is supposed to be able to do in reading, listening, speaking and writing, in all the languages spoken in Europe : English, French, Spanish , German,…etc .According to the CEFR, an A2 in English is the same as an A2 in French or Spanish.

As regards the amount of time required for fulfilling the teaching and learning objectives of each level; it is difficult to specify an exact time frame for completing each level of the CEFR, however the association of language testers of Europe (ALTE) estimates that students can expect to reach CEFR levels after the following cumulative guided teaching hours of instruction in a formal learning setting like classroom.

- **A1** needs approximately 90-100 hours.
- **A2** needs approximately180 -200 hours.
- **B1** needsapproximately350 -400 hours.
- **B2**needs approximately 500-600 hours.
- **C1** is reached after about 700 -800 hours.
- **C2** is reached after about1000 -1200 hours.

QUANTITATIVE AND QUALITATIVE ANALYSIS OF EXPERIMENTAL FINDINGS

QUANTITATIVE AND QUALITATIVE ANALYSIS OF EXPERIMENTAL FINDINGS

3.1. INTRODUCTION

3.2. THE PRE EXPERIMENTAL PHASE RESULTS

3.2.1. The Speaking Checklist Results

3.2.2. The Pre- Speaking Test Results

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3.3.THE EXPERIMENTAL PHASE RESULTS

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3.4. THE POST EXPERIMENTAL PHASE RESULTS

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3.4.2. The Post-Speaking Test Results

3.4.3. Course Evaluation Questionnaire Results

3.5. SYNTHESIS OF THE RESULTS OF THE THREE PHASES:

3.6. CONCLUSION

3.1. INTRODUCTION

To hopefully, obtain scientifically plausible answers for the research questions that motivate the present study, the researcher after compiling data along the ongoing multi step process of collection, she embarked upon the process of analysis. As described so far, the research data were not gathered at one point of time but rather during three distinctive phases: before, during and after experimentation and through the different instruments outlined in chapter two. In the present chapter which is purely analytical, the researcher went over each phase of this quasi-experimental study to report as faithfully as possible the corresponding research findings. The chapter also includes an inter and intra group analyses.

3.2. THE PRE-EXPERIMENTAL PHASE RESULTS

The pre-experimental phase was also a diagnostic phase because it allowed the researcher not only to diagnose the actual speaking level of all the participants but to identify their speaking difficulties as well. During this critical phase, it was necessary to use: a speaking self assessment checklist, a pre- speaking test and a structured interview so as to draw a clear profile of the participants' speaking level prior to experimentation.

3.2.1. The Speaking Self Assessment checklist Results

For needs analysis purposes, the researcher started off the pre-experimental phase which was typically needs analysis phase with speaking self assessment checklists administered to all the students just before taking the speaking test. The speaking self- assessment checklist described in chapter two had two fold aims. Firstly, it allowed the students themselves to identify their speaking level in general English according to the CEFR .Secondly, it allowed them to assess their speaking ability about medical matters. This straightforward and time-saving data collection technique is highly recommended by ESP/EAP needs analysts since it is easy to administer and it helped the researcher to elicit the required information within a short time.

Before proceeding further, it is necessary to mention that prior to launching the present quasi-experimental research, the speaking self-assessment checklists were administered to 34 students before taking the pre-speaking test. Then, immediately after the correction of the pre-speaking test and the formation of the experimental and control group; the researcher examined the collected speaking checklists of only the 24 selected participants.

As regards the first part of the self-assessment speaking checklist which represents the speaking levels of the CEFR, students' answers are described in the following tables:

Experimental group

N^0 of Students	SPEAKING PRODUCTION	SPEAKING INTERACTION
S1	Below A1	Below A1
S2	Below A1	Below A1
S3	Below A1	Below A1
S4	Below A1	Below A1
S5	Below A1	Below A1
S6	Below A1	Below A1
S7	Below A1	Below A1
S8	A1	A1
S9	A1	A1
S10	A2	A1
S11	B1	A2
S12	B1	B1

Control group

N^0 of Students	SPEAKING PRODUCTION	SPEAKING INTERACTION
S1	Below A1	Below A1
S2	Below A1	Below A1
S3	Below A1	Below A1
S4	Below A1	Below A1
S5	Below A1	Below A1
S6	Below A1	Below A1
S7	Below A1	Below A1
S8	A1	A1
S9	A1	A1
S10	A2	A1
S11	A2	A2
S12	B1	A2

Table3.1.Pre –experimental Results of the CEFR Speaking Self assessment Checklist

As the above tables show, speaking self assessment checklists results revealed that nearly all the students in both experimental and control group had a low level of English. As for the results of the second part of the speaking self assessment checklists, they are reported in the following comparative table:

	Experimental Geoup					Control Geoup				
Speaking Competence	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
1-I can express myself using basic medical vocabulary.	0%	0%	8,33%	8,33%	83,33%	0%	0%	8,33%	8,33%	83,33%
2-I can describe the human body from the outside.	0%	0%	%16,66	41,66%	41,66%	0%	0%	%16,66	41,66%	41,66%
3-I can describe the human body from the inside (I can describe the different internal organs and their functions)	0%	0%	0%	41,66%	58,33%	0%	0%	0%	41,66%	58,33%
4-I can describe symptoms , diseases and pains.	0%	0%	8,33%	16,66%	75%	0%	0%	8,33%	16,66%	75%
5-I can speak about the different treatments of medical conditions.	0%	0%	8,33%	16,66%	75%	0%	0%	8,33%	16,66%	75%
6-I can explain medical procedures and discuss the cases of my patients.	0%	0%	0%	33,33%	66,66%	0%	0%	0%	33,33%	66,66%
7-I can make an oral summary.	0%	0%	33,33%	50%	16,66%	0%	0%	33,33%	50%	16,66%
8- I can present a research work orally or make an academic presentation about a medical topic in front of an audience.	0%	0%	0%	8,33%	91,66%	0%	0%	0%	8,33%	91,66%
9- I can present and defend my ideas.	0%	0%	0%	16,66%	83,33%	0%	0%	0%	16,66%	83,33%
10- I can face interruptions and questions.	0%	0%	0%	0%	100%	0%	0%	0%	0%	100%
11- I can explain and comments on graphs.	0%	0%	0%	0%	100%	0%	0%	0%	0%	100%
12-I can speak about my speciality and my researches.	0%	0%	8,33%	25%	66,66%	0%	0%	8,33%	25%	66,66%
13- I can present a clear and fluid description or arguments in a style adapted to the context, I can organise a presentation in a logical manner and help my listener to notice and remember the important points.	0%	0%	0%	0%	1O0%	0%	0%	0%	0%	1O0%
14- I can participate effortlessly to any discussion, I can express myself fluently and precisely. In case of difficulties, I can go back to the point and skilfully rephrase without being noticed.	0%	0%	0%	0%	100%	0%	0%	0%	0%	100%

Table3.2. Pre –experimental Results

of the Speaking Self-Assessment Checklist (Part B)

Before commenting on the results shown in (table3.2), it is worthy to mention that the numbers 1to5 were used to allow students to make self judgements on their speaking abilities by choosing the number that reflected best their speaking abilities. The numbers were graded from very good to impossible as follows:

1-very good 2-fairly good 3-bad 4- awful 5- impossible

A close examination of the speaking results in the previous table shows that in both groups students had a low level and poor knowledge of medical English. To conclude, almost all the participants acknowledged through the speaking self-assessment checklist that they had a beginner or an elementary speaking level in general English and no knowledge of medical English. Thus, all the participants needed too much work to move their English up towards the next level.

3.2.2. The Pre- Speaking Test Results

As already indicated the rationale behind the use of a speaking test whose content was purely medical was to identify as thoroughly as possible the participants' speaking difficulties and determine their speaking level before starting the instruction. Therefore, 34 post-graduate medical students out of 75 took the speaking test. The test was administered individually. It lasted between 20 to 30 minutes, and students' answers were recorded on a mobile dictaphone for later analysis.The following table describes the pre-speaking test results of the 34 test takers:

N^0 of Students	Score	N^0 of Students	Score	N^0 of Students	Score	N^0 of Students	Score
S1	2,5	**S11**	9,5	**S21**	13	**S31**	10,5
S2	1,5	**S12**	3,5	**S22**	6	**S32**	2,5
S3	2	**S13**	11,5	**S23**	10,5	**S33**	3,5
S4	3,5	**S14**	7,5	**S24**	4,5	**S34**	8,5
S5	14,5	**S15**	4,5	**S25**	11		
S6	0,5	**S16**	6,5	**S26**	2,5		
S7	3,5	**S17**	7	**S27**	0,5		
S8	1	**S18**	10	**S28**	5,5		
S9	3	**S19**	3,5	**S29**	6,5		
S10	3,5	**S20**	4	**S30**	8		

Table 3.3. The Pre -Speaking Test Results

After correcting the test and examining the scores, the researcher formed two equivalent groups, one served as a control group and the other as the experimental one.

Experimental Group	**N⁰ of Students**	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
	Score	0,5	2,5	2,5	3,5	3,5	3,5	4,5	5	6,5	7	10	10,5

Control Group	**N⁰ of Students**	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
	Score	0,5	1,5	2	3,5	3,5	4	4,5	5,5	6,5	8	9,5	10,5

Table 3.4. The Formation of Control and Experimental Group

Moreover, to make sure that the experimental group and the control group were similar to each other, the researcher calculated the mean, the mode and the standard deviation of both groups; the control and the experimental one. Statistically speaking, Bachman (2004, 56) describes the mean as "the arithmetic average", i.e. It is the sum of all the scores divided by the total number of the test takers. The mode is the most frequently occurring score, whereas standard deviation is a statistical method referring to the spread of the students' marks around the mean. According to Heaton (1975, 176)

> The standard deviation (s .d) is another way of showing the spread of scores. It measures the degree to which the group of scores deviates from the mean; in other words it shows how all the scores are spread out and thus gives a fuller description of test scores.

The standard deviation also shows whether a group or a class of students is homogeneous or heterogeneous, i.e. If the S.D is high, this means that the group is heterogeneous and by contrast a low S.D indicates a homogeneous group. In the present study both groups have the same mode 3,5 and the same mean 4,5.These results show that both groups had a low speaking level prior to experimentation. Moreover, in both groups the S.D shows that the groups were heterogeneous since

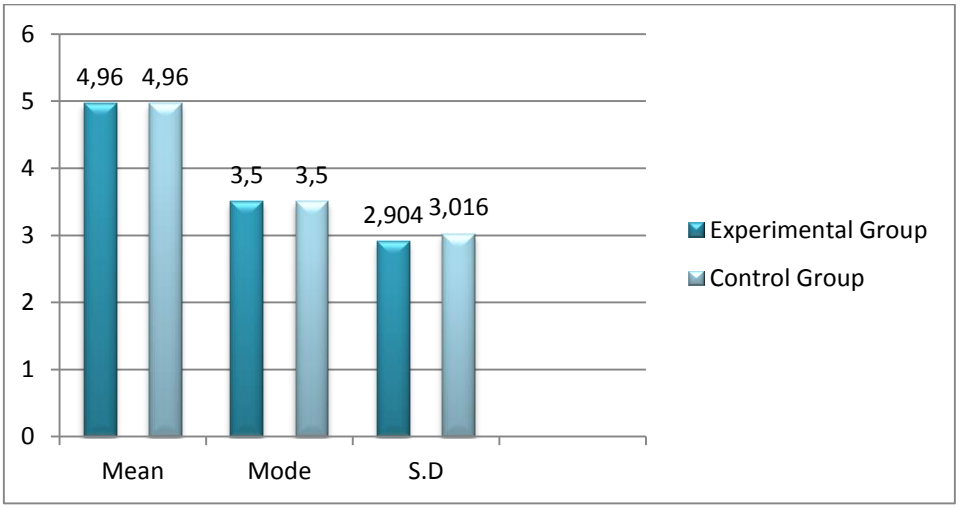
students' scores diverged between 0,5/20 and 10,5/20.Thus, both groups were mixed abilities groups. In view of this, the following comparative tables illustrate the similarity between the experimental and control group pre- speaking test results.

Scores out of 12	Pre- Speaking Test Control Group		
	Mean	Mode	S.D
	4,96	3,5	3,016

Scores out of 12	Pre- Speaking Test Experimental Group		
	Mean	Mode	S.D
	4,96	3,5	2,904

Table3.5: Students' Performance in the Pre-Speaking Test

In the same respect and to better illustrate the similarity between the speaking level of the participants in both the experimental and control group, the following bar graph demonstrates that before starting the experimentation phase, both groups revealed a poor speaking level and both of them needed a great amount of work to improve their level.



Graph 3.1: The Pre-Speaking Test Performance of Both Groups

To put it in a nutshell, the pre-speaking test was necessary for the nature of this quazi- experimental research in order to form two similar groups, equal in number and with approximately the same low speaking level. The test unveiled that students faced serious speaking difficulties in terms of grammar, pronunciation, general vocabulary and medical vocabulary and even in fluency. Students' results are reported in (appendix I) and are discussed later in section (3.4.2. The Post-Speaking Test Results).

3.2.3. The Structured Interview

To gather more insightful information about students' speaking difficulties, needs and suggestions for designing a suitable speaking course; the structured interview was deliberately administered immediately after the speaking test, i.e. to allow students to think back of the speaking difficulties they have experienced while undertaking the pre-speaking test and answer a number of related questions.. As for the data compiled through this conversation-like instrument, it was grouped under the following six rubrics:

- Rubric A: Student's profile
- Rubric B: Student's attitudes to speaking English
- Rubric C: Student's Speaking Difficulties.
- Rubric D: Student's attitudes to audio-visual
- Rubric E: Student's Needs
- Rubric F: Student's Suggestions

- **Rubric A: Students'Profile**

The following comparative table reveals the information about both groups.

		Control Group	Experimental Group
Factual information	**1. Medical Speciality**	-4 residents in Oncology -1 resident in Paediatrics -1 resident in Haematology -1 resident in Nuclear Medicine -1 resident in Legal Medicine -2 residents in Cardiology -2 residents in General Surgery	-6 residents in Oncology -2 residents in Cardiology -1 resident in Internal Medicine -1 resident in Psychiatry -2 residents in General Surgery
	2. N^{er} of years learning English	-8 residents : 5years -4 residents : 7years	-11 residents :5years -1 resident : 6 years
	3. Period of non practice of English	-1resident: 15 year -1 resident: 12years -10 residents :13 years	-All residents:13 years
	4. Level of English	-10 residents :Beginner -2 residents :intermediate	-10 residents :Beginner -2 residents :intermediate
	5. Taking English courses	-Only one resident took an English course at "The Chamber of Commerce" and found it very helpful.	-All residents :have never taken any English course
	6. Improving English Level	-10 residents :said "No, they have not"' -2 residents said they use the internet and sometimes they watch American movies to learn English pronunciation	-All residents answered: "No, they have not"'

Table 3.6. Students'Profile

As illustrated in the table the majority of students in both groups, control and experimental group have a beginner level. Nearly, all of them have not studied English since their Bac exam. Moreover, almost all of them have neither taken English courses to improve their level nor had recourse to other means to cater for their lacks.

- **Rubric B: Students' Attitudes to Speaking**

➢ ***Question 7: The Importance of English for a Medical Career***

All the students (100%), in both groups reported that English is very important for their careers and professional development. They stressed that English is an international language, the language of science and international conferences. They also mentioned that the latest research and the most interesting medical articles are published in English.

➢ ***Question 8: Being Motivated to Speak English***

All the students expressed their desire and willingness to learn to speak English. Two students in the experimental group added that speaking English is a dream beyond their reach and doubted that the course might help them to speak it. All the students expressed their wish to take part in international conferences and to speak English without any fear

.

- **Rubric C: Students' Speaking Difficulties**

➢ ***Question 9: Attitudes to Errors***

In both groups, students stated that they were so afraid of making mistakes when speaking .They added that they felt embarrassed when they made mistakes.

➢ ***Question 10: The Language used while thinking.***

In the experimental group, all the students said that they thought in French. Then, they translated their ideas into English. In the control group,8 students answered that they thought in French and 4 students admitted they did not know.

- ***Question 11: Types of Speaking Difficulties***

As regards the speaking difficulties encountered by the test takers. The respondents' answers diverged. The table below summarizes the frequency of their answers.

	Control Group	Experimental group
Pronunciation	100%	100%
General Vocabulary	83,33%	91,66%
Medical Vocabulary	100%	100%
Sentence Structure	66,66%	83,33%
Expression Of Meaning	100%	100%
Organization Of Ideas	33%	50%

Table 3.7. Students'Speaking Difficulties

As demonstrated in the table, students reported that they had speaking difficulties mainly in terms of pronunciation and vocabulary. In the experimental group, 7 students stated that they had problem of tenses while speaking .They said that they did not know which tense to use while speaking. Moreover, 3 students in the control group and other 4 students in the experimental group stressed that they had speaking problems in all the language items listed in the table.

- ***Question 12: Causes of the speaking difficulties encountered in the Pre-Speaking Test***

In both groups, students linked their speaking difficulties in the pre-speaking test to the lack of practice and to the long period of non-exposure to English. Students also acknowledged they have a poor level of English in general and in speaking in particular.

- **Rubric D : Attitudes to audio-visual material**

- ***Question 13: Students' attitudes to the use of PowerPoint as a teaching tool***

Two students in the experimental group were partly against the use of the PowerPoint as a teaching aid, they believed that the teacher of languages might explain the lessons better when using the board. For the other respondents in both

groups, the PowerPoint was considered as a very useful and a necessary tool in teaching these days, especially to teach medical English and anatomy.

- ***Question 14: Students' attitudes to the use of video as a teaching tool***

Four students in the experimental group were totally against the use of the video with beginners. They claimed that it would be impossible for them to understand English videos and wondered how the videos could be used to teach medical English. Five other students in the experimental group said that English videos in an English class would be a new experience to benefit from and wished the videos to be short of 20 or 25 minutes length, no more. All the remaining respondents held a positive view about the video and strongly claim that videos in English would help them to listen to native speakers and possibly would help them to improve their poor pronunciation.

- ***Question 15: Students preferences***

As regards students' preferences in terms of audio-visual teaching materials. Students' answers are displayed in the following table:

	Video	PowerPoint	PowerPoint & Video
Control Group	0%	0%	100%
Experimental group	16,66%	33,33%	50%

Table 3.8. The most preferred audio –visual aids by the participants

- **Rubric E : Students' Needs**

- ***Question 16: Students attitudes to translation***

All the students were in favour of translation. All of them stressed that translation should be included in the lessons to help them better understand the lessons content.

➢ ***Question 17: Students necessities and where they need more practice.***

Concerning students' necessities, in both groups students insisted on intensive practice of pronunciation and medical vocabulary. They also expressed their needs for more conversation about medical topics.The table below reveals the frequency of their answers.

	Control Group	Experimental group
Pronunciation	100%	100%
General Vocabulary	83,33%	83,33%
Medical Vocabulary	100%	100%
Grammar	50%	83,33%
Conversation about medical topics	100%	100%
Translation	91,66%	50%

Table 3.9. Students' Necessities

➢ ***Question 18: Students' Expectations***

In both groups all the participants stated that they wanted to speak English fluently and easily as they do speak French, without stuttering or fishing for words to express their ideas. They also wished that this course would prepare them to participate in any medical conference held in English. Three respondents in the experimental group also expressed their strong desire to be able to exchange personal information with other English speaking doctors in international medical conferences.

▪ **Rubric F : Students' Suggestions**

➢ ***Question 19: Medical Topics to be included in the Medical Syllabus***

As regards the medical topics suggested by the participants, most of them wanted topics closely linked to their specialities.

➢ ***Question 20: Students' Suggestions Concerning Classroom Tasks and Lessons' Content***

Seven students in the control group and four students in the experimental group wanted the teacher to assign regular homework. Other students wished to

have the titles of grammar and vocabulary books or any good general English coursebooks to work at home, mentioning that their level was too low and they needed extra work at home. Almost all the students in both groups insisted on including pronunciation exercises in the lesssons. Eight students in the experimental group and five students in the control group wanted to have some sessions devoted to techniques of academic medical presentations.

To sum up, the pre-experimental data gathered via: the self -assessment speaking checklist revealed that almost all the participants had a beginner or an elementary level in general English and no knowledge of medical English. Likewise, the results of the pre - speaking test were a compelling evidence of the alarming speaking level of the participants. Similarly, the structured interview showed that all the participants admitted that they had speaking difficulties and they wanted to develop their pronunciation, grammar, general and medical vocabulary and push their speaking level upward. The data of the pre-experimental phase was very critical and helped the researcher later in designing EAMP courses that matched the needs of medical students of both the experimental and control group.

3.3. THE EXPERIMENTAL PHASE RESULTS

The experimental phase was the longest and the most difficult phase in this quasi-experimental study. It lasted seven months and three weeks. It was both effort-demanding and time consuming. On one side, the researcher had to teach both the experimental group and the control group the same medical syllabus, using different teaching materials. On the other side, she had to keep regular records in her research diary about students' strengths and mainly weaknesses and persistent speaking problems after each session. Another point worthy to mention here is that the medical syllabus was designed by the researcher herself taking in consideration students' needs and low speaking level. It was also frequently adjusted and refined as the courses progressed in both groups.

3.3.1. Classroom Observation Diary Results

During the experimental phase, the researcher relied on a classroom observation diary to record the information needed for research purposes. The table that follows summarises the most important remarks taken during the experimental phase:

	Control Group	**Experimental Group**
1st month	- Students too shy and afraid of speaking and making mistakes despite the encouragement of the teacher. -They stuttered and switched into French frequently despite the teacher's warning not to use French in class. - Poor pronunciation: English words pronounced like French words. -Poor knowledge of general vocabulary -Effective time management -Effective teaching materials	- Students too shy and afraid of speaking and making mistakes despite the encouragement of the teacher. -They stuttered and switched into French frequently despite the teacher's warning not to use French in class. - Poor pronunciation: English words pronounced like French words. -Poor knowledge of general Vocabulary -Effective time management -Effective teaching materials
2nd month	- 7 students reluctant to speak and the remaining students struggled to speak in English and when they did not find the words they finished immediately their sentences in French. -Students still pronounced badly many medical concepts that had already been covered in the previous lessons despite the continuous correction of the teacher.	-All the students tried to speak and 4 students dominated class discussion. -Students pronounced better the majority of the medical concepts covered in the lessons but they still had serious grammar mistakes. -From time to time students switched to French when they did not find the exact words to express their ideas. -Effective time management -Effective teaching materials

	-Apparent lack of general vocabulary and poor knowledge of grammatical rules. -Effective time management -Effective teaching materials	
3rd month + 4th month	-All the students engaged in classroom speaking tasks. -Students' vocabulary repertoire was getting more varied and richer. -Students knowledge of grammar was impoving. -Effective time management -Effective teaching materials - Students very energetic and fully engaged in classroom tasks.	-All the students engaged in classroom speaking tasks. -Students' pronunciation was getting better. -Students'vocabulary repertoire was getting more varied and richer. -Effective time management -Effective teaching materials -Students very energetic and fully engaged in classroom tasks.
5th month	Conversation in class was guided by the teacher -Effective time management -Effective teaching materials -Students more and more confidentand daring to take risks and do not worrying about mistakes.	Conversation in class was guided by the teacher -Effective time management -Effective teaching materials Students more and more confidentand daring to take risks and do not worrying about mistakes.
6th month	Conversation in class was guided by the teacher -Effective time management -Effective teaching materials - Students speaking with too much freedom and confidence.	Conversation in class was guided by the students themselves. -Effective time management -Effective teaching materials -Students speaking with too much freedom and confidence
	- Conversation in class was guided by the students themselves. -Most of the time students correct	- Conversation in class was guided by the students themselves. -Most of the time students correct

7sthmonth + the last 3 weeks	each other. -Apparent confidence while speaking and interacting and less fear about making mistakes. -Students' speaking skill getting too much better but grammar mistakes still recurring. -Students' pronunciation was getting better. -Students vocabulary repertoire was getting richer. -Effective time management -Effective teaching materials -Students fully and enthusiastically engaged in speaking tasks.	each other. -Apparent confidence while speaking and less fear about making mistakes. -Students used language creatively but grammar mistakes still recurring. Students' pronunciation was getting better. -Students vocabulary repertoire was getting richer. -Effective time management -Effective teaching materials Students fully and enthusiastically engaged in speaking tasks.

Table 3.10. A Few Glimpses on Classroom Observation Notes

As demonstrated in the table, in both groups, students' speaking skill improved so much compared to the first month of instruction. In addition to that, the researcher noticed that medical students in both the experimental group and the control group took lively interest in the speaking lessons from the very beginning of the course.They were getting more and more dynamic day after day and by the end of the course they reached a certain level of confidence in speaking medical English. They were no longer afraid of making mistakes while speaking, they were correcting each other and helping each other to find the right words. In other terms, the researcher all along the experimental phase remarked that all the participants in both groups were progressing at varying speeds, a fact that explains that both teaching methods were successful.

3.4. THE POST-EXPERIMENTAL PHASE RESULTS

After nearly eight months of experimentation and for research purposes, the same speaking self-assessment checklist was distributed to all the participants to allow them to judge their speaking level after a long period of medical English instruction. Then, a post- speaking test was designed and administered individually to all the

participants in both groups. As indicated in chapter two, the post-speaking test looks like the pre-speaking test in terms of layout, number and type of tasks but it is different in terms of medical topics included in it and is more difficult compared to the pre-speaking test.

At the end of this phase, a course evaluation questionnaire was carried out with all the participants to elicit their true impressions and opinions about the speaking courses they had undertaken. In what follows, the researcher attempts to provide a detailed analysis of students' answers and the information obtained through the different instruments employed during this final phase.

3.4.1. The Speaking Self Assessment Checklist Results

As aforementioned the speaking self assessment checklist consists of two parts. The results of the first part which represents essentially the levels of the CEFR are displayed in the following tables

Experimental group

N^0 of Students	SPEAKING PRODUCTION	SPEAKING INTERACTION
S1	Level A2	Level A2
S2	Level B1	Level B1
S3	Level B2	Level B2
S4	Level B1	Level B1
S5	Level B1	Level B1
S6	Level B1	Level B1
S7	Level B1	Level B1
S8	Level B1	Level A1
S9	Level B1	Level A1
S10	Level B2	Level A1
S11	Level B2	Level A2
S12	Level B2	Level B1

Control group

N^0 of Students	SPEAKING PRODUCTION	SPEAKING INTERACTION
S1	Level A2	Level A2
S2	Level B1	Level B1
S3	Level B1	Level B1
S4	Level B1	Level B1
S5	Level B1	Level B1
S6	Level B2	Level B2
S7	Level B2	Level B2
S8	Level B2	Level B2
S9	Level B2	Level B2
S10	Level B2	Level B2
S11	Level B2	Level B2
S12	Level C1	Level B2

Table3.11. Post-experimental Results of the CEFR Speaking Self assessment checklist

Compared to the pre-experimental results of the CEFR speaking self-assessment checklist, all the participants judged their speaking level as improving after undertaking medical English courses. As for the results of the second part of the speaking self assessment checklist which focuses on speaking about medical issues, the participants' answers are reported in the following comparative table.

	Experimental Geoup					Control Geoup				
Speaking Competence	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
1-I can express myself using basic medical vocabulary.	83,33%	16,66%	0%	0%	0%	8,33%	91,66%	0%	0%	0%
2-I can describe the human body from the outside.	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
3-I can describe the human body from the inside (I can describe the different internal organs and their functions)	8,33%	91,66%	0%	0%	0%	100%	0%	0%	0%	0%
4-I can describe symptoms , diseases and pains.	16,66%	83,33%	0%	0%	0%	16,66%	83,33%	0%	0%	0%
5-I can speak about the different treatments of medical conditions.	0%	100%	0%	0%	0%	8,33%	91,66%	0%	0%	0%
6-I can explain medical procedures and discuss the cases of my patients.	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%
7-I can make an oral summary.	16,66%	83,33%	0%	0%	0%	8,33%	91,66%	0%	0%	0%
8- I can present a research work orally or make an academic presentation about a medical topic in front of an audience.	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%
9- I can present and defend my ideas.	91,66%	8,33%	0%	0%	0%	91,66%	8,33%	0%	0%	0%
10- I can face interruptions and questions.	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%
11- I can explain and comments on graphs.	91,66%	8,33%	0%	0%	0%	91,66%	8,33%	0%	0%	0%
12-I can speak about my speciality and my researches.	83,33%	16,66%	0%	0%	0%	91,66%	8,33%	0%	0%	0%
13- I can present a clear and fluid description or arguments in a style adapted to the context, I can organise a presentation in a logical manner and help my listener to notice and remember the important points.	0%	50%	50 %	0%	0%	91,66%	8,33%	0%	0%	0%
14- I can participate effortlessly to any discussion, I can express myself fluently and precisely. In case of difficulties, I can go back to the point and skilfully rephrase without being noticed.	0%	50%	50 %	0%	0%	16,66%	33,33	50%	0%	0%

Table3.12. Post –experimental Results

of the Speaking Self-Assessment Checklist (Part B)

In contrast to the results shown in table 3.2 (pre- experimental results of the speaking self assessment checklist: Part B/Section 3.2.1. chapter 3), the post – experimnental results of the second part of the speaking self-assessment checklist revealed that all the participants acknowledged through their answers that their speaking level about medical topics had improved greatly after the long period of medical English instruction and the constant practice of medical speaking tasks.

3.4.2. The Post-Speaking Test Results

After more than seven months of medical English instruction, the participants in both groups undertook the same post-speaking test. As aforementioned, the test was essentially developed to gather accurate data about students' speaking level after a long period of instruction and to find out which teaching method was more beneficial. To get a better idea of students' results in both groups. The following tables show clearly the test results of each group before and after experimentation.

Experimental Group / Score/20	N^0 of Students	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
	Pre-test	0,5	2,5	2,5	3,5	3,5	3,5	4,5	5	6,5	7	10	10,5
	Post-test	8,5	11,5	10	12,5	11	12	12	14	14	13	16	14

Control Group / Score/20	N^0 of Students	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
	Pre-test	0,5	1,5	2	3,5	3,5	4	4,5	5,5	6,5	8	9,5	10,5
	Post-test	6	8,5	9,5	9,5	10,5	8,5	9,5	10,5	11,5	11,5	13	14

Table3.13. Pre and Post –speaking test scores of both groups

As shown above, in both groups, students' marks indicate progress at varying degrees. In the experimental group, the marks of the post-speaking test were too much better in comparison to those of the control group. Yet, the researcher cannot conclude that the audio-visual method was better and more beneficial than the other teaching

method as far as the teaching of the speaking skill is concerned. Besides, the researcher taught both groups and kept progress records of both groups and noticed along the experimental phase more interaction and better progress in the experimental group. However, she cannot claim that the audio-visual method is better unless she backs up her personal remarks with rigorous statistical evidence.

Prior to statistical calculations and analyses, it is necessary to provide the readers with an overview of the participants' scores in the speaking sub-skills. As described in chapter two, in both the pre and post speaking tests ,the researcher was assessing: pronunciation, fluency, grammar, general vocabulary, medical vocabulary and even the nature and length of the information provided. To get a clearer idea, the researcher reports the tests' results of each item before and after about eight months of medical English speaking instruction.

A/ Pronunciation

A backward glance at chapter two (2.6.2.1 / 2.6.2.2) shows that pronunciation was measured in all the speaking tasks in the pre and post speaking tests. In each speaking task, the researcher relied on the following evaluation criteria.

Pronunciation Evaluation Criteria	Assigned Points
▪ Good pronunciation ▪ Occasional mispronunciations ▪ Very few mispronunciations ▪ Poor and unintelligible pronunciation with striking mistakes.(Non –English sounds)	7,5- 08 04-07 02-04 00-02

Table3.14. Pronunciation Evaluation Criteria

In each speaking task , pronunciation was on 8 points and in the whole speaking test it was on 40 points. Students' scores in pronunciation are displayed in the following comparative tables:

Experimental Group	N⁰ of Students	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
Score/40	Pre-test	1	6,5	5	6,5	6,5	7	10	15	17	17,5	22,5	23
	Post-test	18	20	20	28,5	20	27	26	35	32	26	34	31

Control Group	N⁰ of Students	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
Score/40	Pre-test	1	2	6	6,5	7,5	7	10,5	15,5	15,5	17,5	20	26
	Post-test	12,5	18	19	19,5	20	17	18	21	20,5	20	26	30

Table3.15. Pronunciation Scores of both groups in the pre and post speaking test

The tables show that students' pronunciation have improved in both groups to varying degrees. Once again, students in the experimental group outperformed students in the control group. In reading aloud tasks in the post-speaking test students, in both groups, performed too much better. While in the pre-test, most of the students stuttered and pronounced English words like French words and did not pronounce the final "s" and "ed " correctly, their pronunciation was far much better after undertaking the speaking courses. The majority of the participants read the selected medical text: "Duodenal Ulcer: Clinical Features" carefully and with great confidence, making pauses when necessary. In the other speaking tasks, students' pronunciation was better in comparison to the pre-test, but there were still some minor and serious pronunciation mistakes occurring in their speaking.

B/ Fluency

In all the speaking tasks, in the pre and post tests, the researcher was examining students' fluency using the following evaluation guidelines:

Fluency Evaluation Criteria	Assigned Points
▪ Natural sounding, with no unnecessary pauses	7,5- 08
▪ Speech flows smoothly but with communication breakdowns from time to time. (occasional pausing)	04-07
▪ Slow speech with halting, fragmented, unnatural pauses (frequent pausing)	02-04
▪ Pausing too often and too long (excessive pausing)	00-02

Table3.16. Fluency Evaluation Criteria

In each speaking task fluency was on 8 points and in the whole speaking test it was on 40 points. Students' scores in fluency are reported in the following comparative tables:

Control Group	N⁰ of Students	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
Score/40	Pre-test	0,5	1,5	1,5	4	4	4	8	10	10,5	16,5	17,5	20
	Post-test	5,5	9	18	15	20	10	19	19	20	19	20	24

Experimental Group	N⁰ of Students	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
Score/40	Pre-test	0,5	2	1,5	5,5	5	4	9,5	10	10,5	14	16,5	21,5
	Post-test	9	19	19	19,5	20	20	19	20	20	20	22	24

Table3.17. Fluency Scores of both groups in the pre and post speaking test

As shown in the tables above, students' fluency has improved in both groups after nearly 8 months of speaking practice in medical English.

C/ Grammar

In both speaking tests, grammar was examined in 4 speaking tasks using the following evaluation criteria. In each task grammar was on 8points and in the whole speaking test on 32.points.

Grammar Evaluation Criteria	Assigned Points
▪ Excellent control of grammar; very few errors	7,5- 08
▪ General good control of grammar; but some errors could be avoided	04-07
▪ Uncertain control of grammar; some serious errors should be avoided	02-04
▪ No control or no knowledge of grammar	00-02

Table3.18. Grammar Evaluation Criteria

The following tables show students' results in grammar before and after speaking instruction.

Control Gruop	N⁰ of Students	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
Score/32	Pre-test	1,5	6	4,5	11	11,5	12,5	12	10,5	13,5	17	21	22,5
	Post-test	10	15,5	16	18	19,5	16,5	14,5	17,5	24	23	25	24,5

Experimental Gruop	N⁰ of Students	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
Score/32	Pre-test	1,5	7	7,5	10	11,5	10	11	12	13,5	14	22	22,5
	Post-test	16	21	17	22	20,5	21	23	22	24	26	30	24

Table3.19.Grammar Scores of both groups in the pre and post speaking test

As indicated in the tables, students' results show that they had grammar problems before starting the course. However, the final test revealed a great progress in comparison to the first speaking test.

D/ General Vocabulary and Medical Vocabulary

To examine and weigh the general and the medical lexis, students had at their disposal, the researcher examined the general vocabulary and medical vocabulary in four speaking tasks in both the experimental and control group relying on the following evaluation criteria :

General Vocabulary and Medical Vocabulary Evaluation Criteria	Assigned Points
▪ Broad, precise, impressive vocabulary ▪ Effective word choice, adequate for the situation ▪ Barely adequate for the situation and level, repetitive ▪ Inadequate,inaccurate .	7,5- 08 04-07 02-04 00-02

Table3.20. Vocabulary Evaluation Criteria

Concerning the results of the general vocabulary,they are presented in the following comparative tables:

Control Gruop / Score/32	N⁰ of Students	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
	Pre-test	1,5	5	7,5	13	11,5	10,5	13	11	15,5	17,5	23,5	22,5
	Post-test	11	16,5	16	15	16	16,5	14,5	16,5	20	20	25	25

Experimental Gruop / Score/32	N⁰ of Students	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
	Pre-test	1	9	10	11,5	11,5	13	12,5	11	14	14,5	24,5	25,5
	Post-test	17	21,5	16	20	20	20	16	24	24	24	27	28

Table3.21. General Vocabulary Scores of both groups in the pre and post speaking test

As shown in the tables, students' results in the post speaking test indicate a great progress at the level of vocabulary. Moreover, the results of the experimental group are much better than the control group.

E/ Medical Vocabulary

In the pre-speaking test, the scores of the medical vocabulary were alarming. However after, more than seven months of medical English instruction students' results of the post –speaking test reveal a significant improvement in both groups. As clearly demonstrated in the following tables, the experimental group outperformed the control group.

Control Gruop / Score/32	N⁰ of Students	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
	Pre-test	0	0	0	0	0	0	0	0	0	0	0	0,5
	Post-test	13	18	18	19,5	19,5	17	19	19	22	24	24	20

Experimental Gruop / Score/32	N⁰ of Students	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
	Pre-test	0	0	0	0	0	0	0	0	0	0	0	1,5
	Post-test	17	24	18	25	21,5	22	24	28	27,5	24	30	21

Table3.22. Medical Vocabulary Scores of both groups in the pre and post speaking test

F/ Information Provided

In both the pre and post -speaking test, the researcher evaluated the quality of the information provided using the guidelines described in the table below. In each speaking task , the information provided was on 6 points and in the whole speaking test it was on 24 points

Information Provided Criteria	Assigned Points
▪ Accurate information with adequate details, ideas very well developed.	5,5- 06
▪ Only basic information is provided, ideas fairly well developed.	04-05
▪ Little information is provided,ideas not well developed.	02-03
▪ Ideas not well stated and not connected.	00-01

Table3.23. Evaluation Criteria for the quality of the information provided

. Concerning students' scores, they are reported in the following comparative tables. The scores of the information provided in the post –speaking test show progress compared to the results of the pre- speaking test.

Control Gruop / Score/32	N^0 of Students	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
	Pre-test	0,5	0,5	0,5	0,5	0,5	1	1,5	7	10	11,5	13	13,5
	Post-test	8	8	8	8	10	8	10	10	8,5	9	10	16,5

Experimental Gruop / Score/32	N^0 of Students	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
	Pre-test	1	0,5	1	1,5	0,5	1	2	2	10	10	14,5	11
	Post-test	8	9,5	10	10	8	10	12	11	12,5	10	17	12

Table3.24. Information Provided Scores of both groups in the pre and post speaking test

As demonstrated through the different comparative tables, all the participants' results were low in the pre –speaking test, in both groups. Yet, in the post -speaking test, all the participants' results improved significantly. In other terms, comparison between the results of the pre and the post speaking tests indicate a substantial improvement in each group .Those positive results denote that both teaching methods, the audio-visual method and the paper- based method along with the accompanying speaking tasks helped the medical residents to improve their speaking skill with reference to pronunciation, fluency, grammar and general and medical vocabulary.

Furthermore, a comparison of the results of the post- speaking test of both groups demonstrate a definite outperformance of the experimental group,i.e. such noteworthy results imply that on practical grounds, the audio-visual method was more beneficial than the other method. In view of this, and in an attempt to get more rigorous and accurate results, the researcher had recourse to descriptive and inferential statistics to determine statistically whether the audio-visual method was truly more beneficial than the other teaching method.

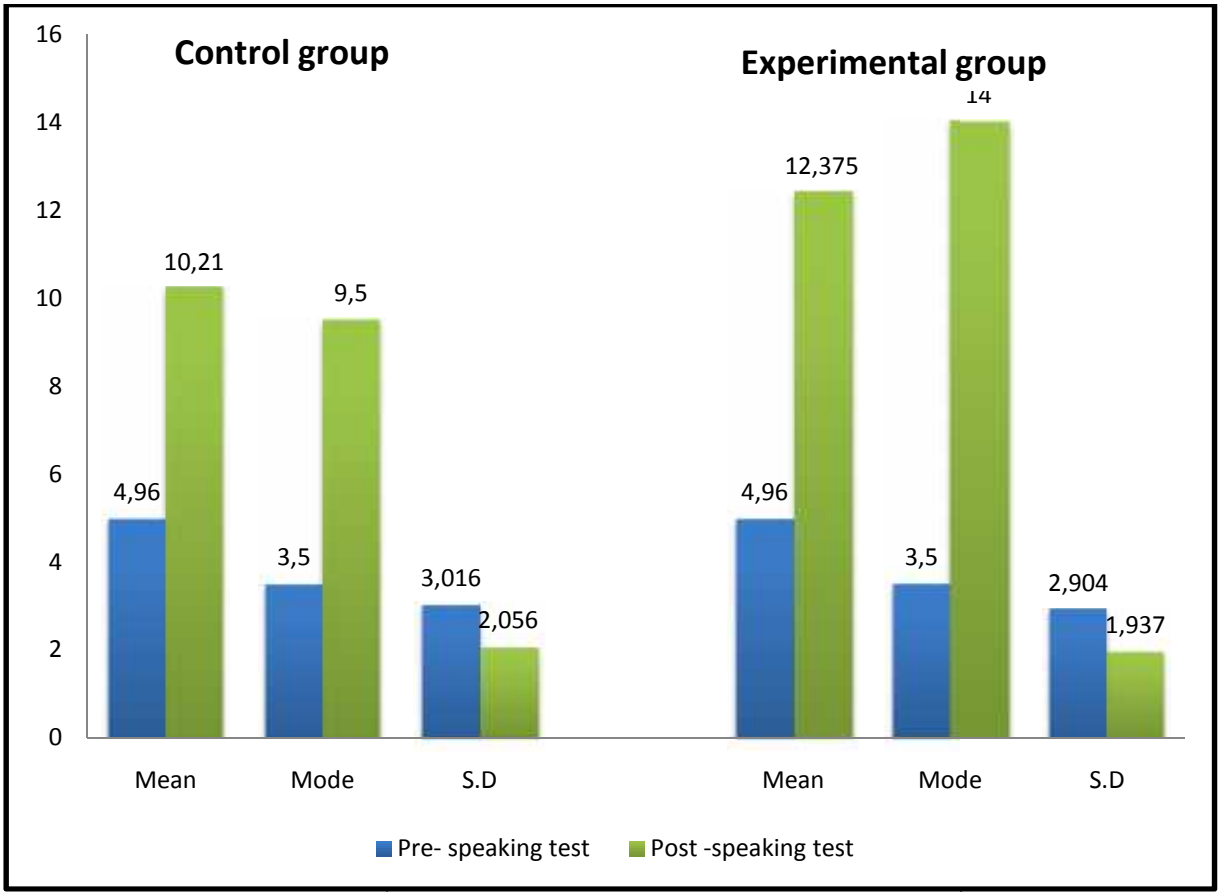
In the statistical analyses of the post-speaking test results, the researcher started by calculating, the mean, the mode and the S.D of both groups. While in the pre-speaking test the mean of both groups was 4, 96 and the mode was 3,5, in the post -speaking test the central tendency ,i.e. the mean and the mode of both groups increased significantly. The results are displayed in the following tables.

Scores out of 12	**Post- Speaking Test Control Group**		
	Mean	**Mode**	**S.D**
	10,21	9,5	2,056

Scores out of 12	**Post- Speaking Test Experimental Group**		
	Mean	**Mode**	**S.D**
	12,375	14	1,937

Table3.25: Students' Performance in the Post-Speaking Test

To better clarify the observed results of the participants' speaking performance before and after experimentation or medical English instruction, the following bar graph highlights the noticeable progress.



Graph 3.2: The Post-Speaking Test Performance of Both Groups

In each group, the SD was low. This fact means that both groups were more homogeneous after more than seven months of medical English instruction, i.e. the audio-visual method and the paper-based method were both efficient and led to good speaking results .While intra-group comparisons reveal a substantial progress in the speaking skill of both groups. The inter - group comparisons show that the experimental group results were much better than the control group .Thus, the audio-visual method was more beneficial than the other teaching method.

After describing the basic features of the pre and post- speaking test results of both groups, the researcher, then worked out the t-test. Richards and Schmidt (1985, 566) define the t-test as "A quantitative procedure for determining the statistical

significance of the difference between the means on two sets of scores." This statistical test is frequently used in experimental studies to check the effectiveness of an intervention. In the present study, this hypothesis test is used to determine the effectiveness of the audio - visual method in developing the speaking skill. Before proceeding further, it is necessary to stress that in inferential statistics, t-tests are usually used to test hypotheses about the means of the control and experimental groups. The t-test is calculated to confirm or reject a null hypothesis.

In the present study, the null hypothesis states that after more than seven months of medical English instruction, there's no difference between the experimental and control group means in respect of their post speaking test results ,i.e. the difference between the two means is equal to zero. By contrast, the alternative hypothesis predicts that after more than seven months of medical instruction, the experimental group may probably have better results than the control group, i.e. the researcher expected the difference between the two means to be greater than 0.This directional research hypothesis requires a one-tailed test. In view of this, Cohen (2007:504) explains that:

> In a one-tailed test one predicts, for example, that one group will score more highly than the other, whereas in a two -tailed test one makes no such prediction. The one-tailed test is a stronger test from the two -tailed test as it makes assumptions about the population and the direction of the outcome.(i.e. that one group will score more highly than another)

Since the alternative hypothesis specifies in advance that the speaking results of the experimental group may probably be better or higher than the control group , a one-tailed test is used in the present quasi-experimental study. Besides, Cohen stresses that a one-tailed test "if supported is more powerful than a two-tailed test."(ibid, 504)

Another important consideration in selecting the appropriate t-test, is the number of groups involved in the study, therefore ; the present study necessitates independent means t-test also called independent measures.

In simple terms, the independent t-test compares the actual difference between the means of the experimental and control group in relation to the variation in the scores of each group (expressed as the standard deviation of the difference between the means).Thus, the mathematical equation for the independent t-test is as follows:

$$t\text{-value} = \frac{difference\ between\ group\ means}{Variability\ \ of\ the\ groups} = \frac{\bar{x}1 - \bar{x}2}{S\sqrt{\frac{1}{N1}+\frac{1}{N2}}}$$

- $\bar{x}1$ = Mean of the experimental- group
- $\bar{x}2$= Mean of the control group
- S = Standard deviation:
- S = $\sqrt{\frac{A+B}{(N1-1)+(N2-1)}} = \sqrt{\frac{45{,}06+50.73}{11+11}}$ = 2,086

  A= $\sum(s\ exp - \bar{x}1)^2$ (see Appendicx 'K')

  B=$\sum(s\ cont - \bar{x}2)^2$
- *S* exp: individual scores of the experimental group.
- *S* cont: individual scores of the control group.
- N1 = Number of participants in the experimental group
- N2 = Number of participants in the control group

After clarifying the different elements constituting the t-test formula, it is necessary to highlight all the statistical steps involved in the calculation of the t-test. The following table describes accurately all the necessary steps followed in carrying out an independent t-test.

	T- TEST STEPS	Explanation and illustration
Step 1	Formulating the statistical hypotheses	**Null Hypothesis:** H_0: $\bar{x}_1 - \bar{x}_2 = 0$ **Alternative Hypothesis :** H_1: $\bar{x}_1 - \bar{x}_2 > 0$
Step 2	Setting a level of statistical significance ($\propto$)	The obtained results have been put with 5% error margin (i.e.,$\propto = 5\%$) (see appendix 'L').
Step 3	Calculating the t –ratio $t=\frac{\bar{x}1-\bar{x}2}{S\sqrt{\frac{1}{N1}+\frac{1}{N2}}}$	$t=\frac{12,375-10,21}{2,068\sqrt{\frac{1}{12}+\frac{1}{12}}}=\frac{2,16}{2,086*0,407}$ ***t= 2,544***
Step 4	Calculating the degrees of freedom (df) which is the number of the participants in both groups minus 2.	df = (N1 - 1) +(N2 - 1) df = (N1+N2) – 2 df = 22 (see appendix 'L').
Step 5	Finding the probability value(p) associated with the obtained t-ratio by using the table of critical values for t-test .Going back to the standard table of the t-test, one needed to consider that results have been put with 5% error margin (i.e.,$\propto = 0.05$); hence, $t_{\propto} = 2.544$.	t_{obv} | t_{crit} | d.f | p.value 2,544 | 1,72 | 22 | 0,05 **t_{crit}** is not calculated it is read on the table of critical values for t-test (see appendix)
Step 6	Making a decision regarding the null hypothesis:either to reject H_0 in favour of H_1	the null hypothesis was rejected : H_0: $\bar{x}_1 - \bar{x}_2 = 0$ the alternative hypothesis was accepted: H_1: $\bar{x}_1 - \bar{x}_2 > 0$

Table3.26:The Different Steps of the t-test

As illustrated in the table $t = 2,544$ while $t_{crit} = 1,72$ and from a statistical point of view when t-statistic > critical value (i.e., $t > t_{crit}$),the null hypothesis will be rejected in favour of the alternative one.Thus, the t-test reveals the efficiency of the audio-visual instruction in developing medical students speaking skill.

Yet, a sound and a rigorous statistical analysis does not rely solely on the interpretation of the t-test result but requires the calculation of the effect size, as well. Therefore, an eta-squared which is an additional statistical measure was necessary to gauge the strength of the effect of the audio-visual teaching method. In other terms, statisticians strongly recommend the effect size in reporting empirical research findings.

According to them, while the t-test result informs the readers whether an effect exists and that it is not due to chance, it does not reveal the size of the effect,(i.e how big it is), hence the effect size is an essential quantitative measure required to examine the magnitude of an observed effect. In view of this, Coe (2000:1) beautifully defines the effect size as:

> simply a way of quantifying the difference between two groups.For example if one group has had an experimental treatment and the other has not (the control),then the effect size is a measure of the effectiveness of the treatment.
>
> (quoted in Cohen ,2007,521)

In the same line of thought, Gene V. Glass, one of the very influential American statisticians and a researcher in education, strongly claims that :

> You should describe the results in terms of measures of magnitude – not just, does a treatment affect people, but how much does it affect them?
>
> **(** quoted in Cumming, 2012,197)

Taking this into consideration, the researcher calculated the eta squared to examine the size of the effect that the independent variables generated.The eta squared formula is as follows

$$Eta\ squared = \frac{t^2 \ |}{t^2 + df} \qquad |$$

t : is the t_{obs}=2,544

df: Number of all the participants minus 2.

The effect size equation can be worked out as follows:

$$Eta\ squared = \frac{(2{,}544)^2}{(2{,}544)^2 + (24-2)} = \frac{6.4719}{28.4719}$$

Eta squared = 0.227

As regards the interpretation of the eta square, Cohen (1988) considers the effect of 0.01 as too small, 0.06 as a moderate one and 0.14 as a very large or strong effect. Based on Cohen's clear explanation and since *Eta squared = 0.227* and it exceeds Cohen's cutoff point 0,14, it is statistically proven that the independent variables (i.e the use of medical videos and medical power point presentations) had a very large effect on the development of the speaking skill of medical students. To put it differently, this denotes that the effect of the audio-visual method was strong and large.

3.4.3. Course Evaluation Questionnaire

In ESP/EAP settings, a course evaluation questionnaire is a must. It is structured in a way that helps the medical students to poll their sincere opinions about the medical course that lasted more than seven months. As described so far, the course evaluation questionnaire includes an evaluation grid and some questions.The evaluation grid covers the following key points: the speaking syllabus content, classroom speaking tasks, speaking sub-skills, patterns of interaction and class work and teaching Material. The students evaluated the course according to an evaluation scale from 1to 5 as follows: 1/extremely valuable ,2/ valuable, 3/ of some value, 4/ of little value, 5/ of no value. The following table illustrates students' impressions.

		Experimental Group					Control Group				
Course Content		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
1	Topics Covered	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
Classroom Speaking Tasks											
2	Summarizing Orally	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
3	Role Plays	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
4	Teacher's Guided Discussions	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
5	Free Discussions and Debates	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
6	Games	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
7	Mini Oral Presentations	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
Speaking Sub –Skills											
8	Pronunciation Practice	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
9	Grammar Practice	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
10	General Vocabulary Practice	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
11	Medical Vocabulary Practice	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
Patterns of Interaction and Class Work											
12	Individual Work	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
13	Pair Work	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
14	Group Work	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
15	Whole Class Work	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
Teaching Material											
16	Worksheet	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
17	Video	100%	0%	0%	0%	0%					
18	Powerpoint	100%	0%	0%	0%	0%					

Table3.27: The Results of the Course Evaluation Grid

As demonstrated in the table, in both groups all the participants judged all the listed items extremely valuable. In other words, all the participants considered the medical speaking courses, they undertook extremely valuable.

As regards, the remaining questions of the questionnaire, the participants' answers are reported in what follows:

- ***Question 1: What do you think of the organization of the syllabus?***

  All the participants answered that the syllabus was well organised moving from the simple lessons and tasks to the more complex and the more difficult.

- ***Question 2: What do you think of classroom time management?***

  All of them considered time management, as being well exploited. Moreover, five students in the experimental group expressed their wish to have more time devoted to grammar practice.

- **Question 3** :***Was the course at the level of your expectations ?***

  In both groups, students expressed their satisfaction.

- ***Question 4: Would you suggest this course to your colleagues?***

  All the residents stated that they would advise their colleagues to enroll in similar courses in the future.

- ***Question 5: Which aspects of this course did you like best?***

  In the control group, all the residents preferred teacher's guided discussions, games and even mini –oral academic presentations. On the other hand, residents in the experimental group stressed that they liked all the speaking tasks. They added that such a variety of tasks made the course interesting day after day.

- ***Question 6: What are the negative aspects of this course?***

  According to all the participants, the only negative point was the number of sessions per week .They wanted more sessions.

- ***Question 7:*** **Which aspects would you like to change or to keep in this course?**

  In the control group, the residents wanted to have audio or audio-visual materials to be included in the course. In the experimental group, the residents wanted to have copies of the videos discussed in class to have more listening practice at home.

- ***Question 8: What are your comments on the quality of instruction in this course and what are your suggestions?***

As regards this question, all the residents stated that the teacher was always encouraging them to speak and correcting them without hurting their feelings. All the

residents judged the speaking courses very successful. They were quite happy with their exit speaking level. They wanted the course to continue. In the control group, the residents wished to have audio-visual materials to be included in the instruction. Moreover, in both groups all the participants wanted in the future, medical courses to be more specific. For instance, cardiologists wanted a course in medical English devoted only to cardiology. Likewise oncologists demanded a course revolving only on themes and topics related to oncology. Furthermore, all the residents asked the researcher to design another medical course targeting the development of the writing skill. They wanted to learn to write compelling medical articles.

3.5. SYNTHESIS OF THE RESULTS OF THE THREE PHASES:

Prior to experimentation, the researcher expected medical students to have a poor speaking level in general English and Medical English alike. Nevertheless, for the sake of ensuring a sound scientific experimental study, all the participants were asked to identify their speaking level via a speaking self-assessment checklist. The layout of this research tool allowed the participants not only to determine their entry speaking level and later their exit level but it prompted them to gauge their speaking ability while enrolling in the medical English speaking course as well.

As expected, the results of the speaking self-assessment checklists administered at the outset of the research study ascertained that all the participants' speaking level was low in general English and worse in medical English. Thus, too much work was necessary during the experimental phase to help medical students to make progress as regards their speaking competence. Interestingly, the data gathered through the same speaking self-assessment checklist at the end of the experimental phase yielded relatively a significant progress.

Before proceeding further, it is worthy to pinpoint that this research tool was vital for both the participants and the researcher. It was like a yardstick for measuring the speaking competence all along the experiment. This instrument did not only allow the participants to make self-judgements about their alarming and deteriorating

entry speaking level but it raised their awareness about the considerable amount of effort they needed to deploy to develop their speaking skill effectively.

Indeed, the participants speaking level improved significantly in both the experimental and the control group after more than seven months of medical English instruction. During those months, the researcher employed a variety of speaking tasks covering all the linguistic features of medical English: English grammar, general vocabulary and medical vocabulary and pronunciation. The researcher noticed also the continuous progress of all the participants in both groups and students themselves affirmed it through their speaking self –assessment checklist.

Accordingly, speaking self-assessment checklist findings supports the first research hypothesis which states that: Medical students need to learn and to widen their knowledge of the different linguistic features of medical English mainly grammar, general and medical vocabulary, as well as correct pronunciation to speak medical English in academic settings with ease and clarity.

In the same vein, the results of the classroom observation diary, the pre speaking test along with those of the structured interview carried out immediately after the entry test revealed that all the participants had serious speaking difficulties in terms of grammar, general vocabulary, medical vocabulary and pronunciation. Moreover, the structured interview showed that all the participants without exception wanted eagerly to develop the linguistic features of medical English. Add to that, the good results of the post speaking test and the notes taken during classroom observation prove that the seven months and the three weeks of medical instruction were fruitful for both the experimental and control group. This is another compelling evidence that borne out the first research hypothesis.

As regards the second hypothesis, the researcher speculated that a wise and a judicious use of audio-visual materials along with well-structured speaking tasks may help students to develop their speaking skill significantly. In practice, designing a

medical course based on audio - visual material was time consuming and effort demanding. Yet, the availability of free resources online helped the researcher to develop well thought out speaking medical lessons based on medical videos and medical power point presentations.

As pointed so far, the experimental phase was the most difficult and the most demanding phase in this quasi- experimental study because the nature of the research makes it imperative for the researcher to teach both the experimental group and the control group the same medical syllabus, using different teaching materials. Therefore, all the speaking lessons were planned with painstaking attention.

Unsurprisingly, the results of the course evaluation questionnaire administered at the end of the experimental phase revealed the satisfaction of all the participants in both groups, the experimental and control group. Such research findings prove that both teaching methods were successful from the point of view of the participants.Thus, based on the findings of the course evaluation questionnaire of the experimental group and the results obtained via speaking self assessment checklist of the experimental group and as demonstrated earlier through an intra comparison between students pre and post speaking test results of the experimental group, the data results compiled through those different instruments strongly support the second research hypothesis.

Concerning the third research hypothesis, the inter comparison between the results of the post speaking test of both the experimental and the control group showed that the experimental group which received audio –visual instruction outperformed the control group which was taught in the traditional way relying only on chalkboard, texts, worksheets, flashcards and posters. Indeed, the statistical results of the t-test and the eta squared proved that the audio-visual course was more beneficial than the other traditional course. In view of this, the researcher can confirm the last hypothesis formulated as follows: An audio-visual course is probably more beneficial and fruitful than a course based solely on chalkboard, texts, worksheets, flashcards and posters to develop medical students' speaking skill. Thus, it is safe to say that the audio-visual method is more fruitful than the traditional teaching method.

3.6. CONCLUSION

Through out this analytical chapter, the data compiled over more than 7 months, have been thoroughly examined so as to find out evidence that bear out or refute the hypotheses put so far. As outlined through out the chapter, the data were gathered during three distinctive phases.Yet, after analysing, comparing and contrasting the results of both the experimental and control group, the researcher reached the conclusion that the audio visual method was better than the other method.

In the following chapter, the researcher will suggest a medical English syllabus to be accompanied with audio-visual materials for medical students.

PROPOSALS AND ILLUSTRATIONS OF AN EAMP AUDIO-VISUAL SPEAKING COURSE

PROPOSALS AND ILLUSTRATIONS OF AN EAMP AUDIO-VISUAL SPEAKING COURSE

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4.10. CONCLUSION

4.1. INTRODUCTION

After trying out medical videos and PowerPoints in class and after the satisfactory results achieved by the experimental group, the major aim of the present chapter is to put forward a proposal for an EAMP speaking syllabus that develops and fosters the residents' speaking skill through the exploitation of medical audio-visual materials. Therefore, the chapter offers some useful guidelines for both selecting and using medical videos and PowerPoints presentations in a medical English class. It also provides a framework for incorporating language tasks that should accompany any medical video and more importantly, it presents an illustrative unit covering detailed lessons.

4.2. THE BENEFITS OF AUDIOVISUAL INSTRUCTION

As experimentally tried and tested and as demonstrated in the preceding chapter, the audio-visual method proved to be very successful to teach the speaking skill to third year post- graduate medical students. In comparison to instruction based solely on texts, flashcards and posters, the use of medical audio-visual materials made the teaching setting richer in medical information, allowing the teacher to incorporate a variety of challenging medical speaking tasks.

4.2.1. The Benefits of Medical Videos

In the light of the research findings and based on classroom observation, it is no exaggeration to say that the medical video is a powerful medium of instruction to teach the speaking skill to medical students.

- It enabled the teacher to maximize students' exposure to authentic academic medical English.
- It allowed the teacher and the students to discuss a plethora of medical topics.
- It helped creating communicative situations and was the basis of hot medical debates.
- It helped to maintain a high level of interest in the lessons.
- It stimulated medical students and helped them to retain the pronunciation of medical concepts.
- It promoted greater student interaction and participation.

Yet, it is important to stress that a medical video in a medical English class is not a cure-all that turns medical students into fluent speakers in a fortnight. Nevertheless, it is an ultra-effective teaching medium to develop the speaking skill for those students.

4.2.2. The Benefits of Medical PowerPoints Presentations

Like the video, the PowerPoint is a rich multimedia application.It was incorporated in the medical English class to give a lift to methodology in terms of maintaining interest and motivation, to extend the range of audio-visual techniques available, to add a special flavour to the medical English lessons and another extra dimension to the medical English course in general. Indeed, PowerPoints presentations facilitated both the teaching and learning of medical English. This digital, time saving teaching tool can be used:

- To highlight , demystify and practice language points.
- To consolidate previous lessons.
- To display pictures of pathological conditions
- To provide and maximize pronunciation practice.
- To train the learners to read aloud medical passages.
- To present medical animations.
- To spark highly interesting medical debates.
- To create medical quiz games.

Nevertheless, it is worthy to mention that medical English PowerPoint presentation is not a panacea in itself to all language problems. Besides, ill-conceived PowerPoints presentations may generate students' loss of interest.Therefore, the teacher should design compelling and accurate PowerPoints so as to keep medical students involved and engaged in the medical English lessons. In view of this, Abe (2008:20) states that:

> PowerPoint presentations can be a friend or foe in the classroom. The technology enhances the way materials are shared and reinforces ideas, yet it cannot substitute for the human touch.

In the same vein, Lewis (2009:9) stresses that:

> ... new technologies open up possibilities unheard of in previous eras. But these technologies will have only limited impact if the pedagogy behind the application does not keep pace.Teaching is nothing without a teacher and a plan.

As put beautifully by Lewis the ever -evolving educational technology is of no use without adequate pedagogy.To put it in a nutshell, a well designed medical power point incorporated in the medical English lesson at the right time and for a specific teaching objective will undoubtedly be efficient and effective.

4.3. TIPS FOR USING MEDICAL VIDEOS IN CLASS

In order to avoid boring routine and monotony. The teacher should create a lively and an enjoyable teaching learning atmosphere in the medical English class. Therefore, the medical videos can be exploited in a variety of ways. The following table summarizes some techniques that can be used in a medical English Course.

TECHNIQUE	CLASSROOM IMPLICATION
Active viewing	Students watch the medical video and do the tasks simultaneously.
Freeze framing and prediction	Freeze framing is simply stopping the picture on the screen in order to draw students' attention to a particular point or to teach them some medical vocabulary about a specific medical issue.The video can also be stopped when it seems necessary and students may be asked to predict what might happen next.
silent viewing	Students watch the medical video with the sound off and do the tasks.
Image off/Sound on	To stop moving pictures and keeping just the sound going on.Students are asked to do some specific tasks.

Table 4.1. Practical Techniques for Medical Video Implications in Classroom

4.4. KEY CRITERIA FOR SELECTING MEDICAL VIDEOS

Today access to information is easier and easier compared to the past. While language teachers found it too difficult to collect useful visual teaching materials in the past, nowadays everything is at their fingertips, all they need to do is to browse the net then to print out any photo they need for their lessons. The internet offers a wealth of material that can be explored in language classes. There is an unlimited number of medical videos and ready -made medical PowerPoints that can be downloaded from the net and explored along with purposeful teaching tasks.

For effective audio-visual instruction, the teachers must go through the selected material in advance to make sure that the language and the content match up students' level. Therefore, there are a number of criteria EAP teachers should take into consideration in the selection process. In the present study the researcher after tracing out the syllabus content, embarked on the process of collecting raw material from the internet .At this point it is worthy to mention that the researcher collected a big number of medical videos for each unit. For instance, for the first sample lesson of the cardiovascular system, she downloaded more than thirty eight videos. Then the videos were selected according to five criteria:

1. Content appropriateness
2. Degree of language difficulty
3. Rate of speech
4. Length of sequence
5. Technical quality

- **Content Appropriateness**

The content of the video is the foremost consideration. There should be a connection between the objectives of the lesson and the medical content of the video sequence. Here it is worthy to mention that at the beginning of the course it is safe and advisable to avoid video sequences that are overloaded with information and details.

- **Degree of language difficulty**

The second criterion that should be taken into consideration is the level of linguistic complexity of the video. In order to ensure a safe environment for learning, it is necessary to go through the video sequence in advance and check that it is

comprehensible and at the right level and adequate to the actual language level of medical students.

- **Rate of speech**

The rate of speech is also a critical issue. At the beginning units, it is necessary to select videos in which the speaker or the speakers' voices are slow, clear and well articulated.

- **Length of the sequence**

The video sequence should not be long. If it is long , it is necessary to cut it and break it down into smaller sequences or to use stop option , to stop at different intervals whenever it is necessary. Otherwise students would be lost or would lose interest in following the lesson.

- **Technical quality**

It is important to choose videos of high quality production. It is necessary to examine the quality of the sound and the image.

4.5. A REFLECTIVE FRAMEWORK FOR INCORPORATING MEDICAL VIDEO - BASED TASKS

To effectively exploit a medical video sequence in depth, the teacher should carefully develop adequate language tasks that revolve primarily around the video's medical content and target essentially the development of medical students' pronunciation, grammar, general and medical vocabulary and subsequently their speaking skill.

To do so, the language tasks should be purposeful, meaningful, interesting, well-sequenced and challenging. They should move gradually from the simple to the more complex and from the general to the more specific. In other words, they should help medical students to activate their passive vocabulary, to brush up their general English and grammar and along the exploitation of the video , they will discover new medical words, structures, new grammatical functions, discourse markers and other organisational patterns of spoken medical discourse.

Thus, to ensure a better and a fuller comprehension of an authentic medical video, it is necessary to divide the language tasks into three categories: before watching, while watching and after watching tasks. The first set of tasks constitute an essential preliminary phase that help students during the watching phase. The second set of tasks keep the students focused on the video content whereas the third phase is an extension phase during which students put in practice the linguistic knowledge acquired in the lesson and demonstrate through speaking tasks how well they can speak about a medical topic related to the video's theme.The table below summarizes the three phases with their pedagogical rationale and some suggested tasks:

Stage	Rationale	Sample Tasks
Pre-watching	▪ To pave the way for the watching phase. ▪ To establish a purpose for watching. ▪ To activate prior Knowledge ▪ To introduce students to the key vocabulary they will encounter during the watching phase. ▪ To facilitate the comprehension of the video.	▪ Discussing picture clues about medical topics related to the intended medical video. ▪ Matching medical words to their definitions ▪ Matching vocabulary to pictures. ▪ Categorizing medical vocabulary under headings
While-watching	▪ to help students focus on the content of the video to fully understand it	▪ filling the gaps ▪ matching sentences ▪ labelling diagrams ▪ Answering questions ▪ making notes about concepts and ideas ▪ Completing tables
Post-watching	▪ To create communicative situations that boost students to speak at some length about medical topics related to the video theme.(individually/in pairs or in groups)	▪ Making Oral Summaries ▪ Discussion Questions ▪ role plays ▪ Competing or drawing medical concepts maps ▪ Preparing a short talk about a medical topic related to the video

Table 4.2. A Practical Framework for Incorporating Medical Videos- Based Tasks

4.6. KEY CRITERIA FOR DESIGNING MEDICAL SPEAKING TASKS

The ultimate aim of any well-thought out speaking task is to enable medical students to speak medical English with ease, clarity and more importantly with confidence.Therefore, the speaking tasks should be simple and short especially at the beginning of the course and they should match the low level of the learners.Besides, they should engage all the learners without exception.In other terms,some medical students may avoid classroom interaction, they can be too shy, unresponsive, reluctant to express themselves in front of their peers for fear of making mistakes and being ridiculised.The teacher, hence should give special attention to those students so as to ensure equal speaking opportunities for all the medical students.She/he should diminish and erase students' irrational fears of making mistakes and she/he should continuously praise them for even the slightest progress or good work so as to boost their speaking confidence.

Another critical ingredient for any effective speaking task for medical students is pre-teaching the key medical vocabulary pertaining to the task in advance. For example, if the teacher asks the students to prepare an oral presentation about the causes and the treatment of psoriasis, she/he must teach them in advance the necessary medical terms related to this skin condition,such as the different skin lesions: patch, blister, vesticle, macule, pustule, crust, wheal,scale,ulcer,…etc.Therefore, the teacher may prepare a power point presentation showing real photos of the different types of skin lesions and she/he may add a vocabulary exercise defining some lesions and students based on the descriptions find out the name of the lesions.

Furthermore, to ensure a smooth running of a speaking medical English lesson, the exercises should be designed with great care.They should be graded according to the difficulty, moving from the simple ones to the more difficult ones helping the students to develop general and medical vocabulary, grammar, pronunciation and more importantly by the end of each lesson, they should show how well they are progressing in the speaking tasks of the post watching phase.

Another important point in an academic medical speaking course is the creation of variety in lessons and chasing away routine and monotonous atmosphere, by engaging students in amusing and lively pair work, group work and even whole class work. For example, turning the classroom setting into a TV stage or a radio studio and asking them to present an awesome medical talk show about a specific medical topic.

For instance, raising the TV viewers' awareness about Down Syndrome. All the students should be involved in this speaking task.The teacher may assign specific roles to all the members of the group based on individuals' strengths. She/he may ask the best student to be the TV host like Dr. OZ , other three good students can play the role of guests who are supposed to enlighten the audience about the topic: "Trisomy 21", one of them can be a renown researcher about abnormal chromosomes, the second is a well- regarded gynecologist and a best-selling author , the third student may play the role of the executive director of the National Down Syndrome Association whereas the other students play the roles of TV viewers or parents of Down Syndrome children.

It is worthy to mention, that this type of speaking game is really challenging, because all the students have to work as members of one team whose mission is to present an excellent medical TV show, highly rich in medical information. Moreover, the teacher may let students to divide up the roles by themselves and to write the speaking scenario alone.They should find out a compelling title for their show, they should demonstrate their medical knowledge, their linguistic knowledge as well as their artistic skills.

Another variety of the speaking game can be done as a pair work. It may involve only two students, one of them a famous journalist and the other an outstanding doctor discussing a medical condition.

Another speaking game that can be incorporated in a medical English class is a medical TV show quiz " Who Wants To Be A Millionaire", two students prepare a set of challenging questions about a variety of medical topics to their classmates and the other students play the role of the TV viewers and participants.

In addition to the aforementioned games, there is another compelling speaking task that can be included in a medical English class. It is clinical problem -solving cases, the teacher present a power point presentation of different medical cases, typically real world medical problems and the students work in pairs or in a group of three to identify the specific medical problems as they perceive them. They analyse the data relying on their own medical background knowledge and their diagnostic reasoning, they may raise points and questions , they may agree or disagree with each other and defend their positions and they may reach a compromise and draw a list of possible diagnoses that could account for the patients' complaints and suggest adequate treatments.

This kind of speaking task is highly challenging because it induces medical students to use both their clinical and linguistic knowledge to provide the best medical solutions. Add to that, this type of task enhances both collaboration and cooperation between the participants. It stimulates classroom discussion ,collaborative analysis and it even develops decision –making to make accurate diagnosis.

Another speaking task that involves all the students is whole-class discussion is medical roundtable. It is a guided discussion about a medical topic related to the lesson.The teacher prepares a set of twenty questions or more to launch a hot medical debate. The aim of the task is to consolidate the new medical language acquired during the lesson and to extend it a bit.

Before proceeding further, the researcher noticed that during the experimental phase, all the medical students in both groups, the experimental and control one highly appreciated the speaking games .They were not only proud of their performances but surprised with the amazing ideas of their peers.The speaking games did not only maximise the speaking interaction within each group, they really energized all the medical students.They created a sense of competition, students were learning to speak through collaboration and sharing. Moreover, those drama like plays brought the medical English classroom to life. Indeed, while having fun, medical students were discussing hot medical debates. They were really fascinated with their artistic talents.Those games were refreshing their minds after a busy day in the hospital. Therefore, the researcher highly recommends them for any medical English class.

To put it in a nutshell, to develop the speaking skill of medical students, the teacher should strive as much as possible to create a pleasant and supportive classroom atmosphere, so as all the medical students feel comfortable and do not feel embarrassed when making mistakes.She/he should combine structured output tasks, which allow error correction and increased accuracy, with communicative output tasks that give students opportunities to practice language use creatively and more freely. The teacher should let the students to participate in their own way, and do not expect all of them to contribute equally to a conversation. Each student has individual language skills and an individual approach to learning.Nevertheless, in a safe learning environment and with appropriate guidance and with adequate speaking tasks medical students may impress their teacher.

4.7. A SUGGESTED SYLLABUS FOR AN EAMP AUDIO-VISUAL SPEAKING COURSE

After working in the medical field for a couple of years, and after more than seven months of experimentation and based on needs analysis of third year residents at the faculty of medicine; the researcher suggests the following medical syllabus for an EAMP audio-visual speaking course for medical residents. The course lasts about 8 months, two sessions a week. The duration of each session is 2 hours. The number of the participants should not exceed 12, so as to ensure quality teaching and equal speaking opportunities for all the residents.

This medical EAMP audio-visual speaking course offers the residents the opportunity to develop their speaking skill in a systematic way through controlled, semi-controlled and free speaking tasks. The course focuses on acquiring and using basic grammar correctly, learning accurate spelling and pronunciation of terms and building a solid knowledge of basic anatomical, physiological, pathological and therapeutic terminology. Moreover, all along the course the residents are trained to discuss a wide array of medical topics encompassing: human anatomy and physiology, pathological conditions and their clinical manifestations, diagnostic and therapeutic procedures, diagnostic tests, drug classification and mode of administration, blood

tests, surgery and rehabilitation, tips for delivering and defending medical presentations in medical conferences and discussions about the specificities of some medical professions.

Another point worthy to mention, is that the course starts with an entry speaking test and ends with an exit speaking test. As aforementioned in chapter two, those tests are necessary in any ESP/EAP course. Thus, the researcher proposes the pre and the post speaking tests used in this experimental study.(See appendix D and E)

The following table summarises the course profile:

An EAMP Audio-Visual Speaking Course for Medical Residents	
Type of the course	Elective / Optional
Overall Aim of the Course	Developing the speaking skill.
Course Focus	Developing Pronunciation,grammar , general and medical vocabulary
Course Length	300 hours / 2 days per week / 2 hours each session
The Target Learners	Medical residents
Entry Speaking Level	A1 / A2 /B1 (= beginner/elementary or intermediate)
Expected Exit Speaking Level	B2 = advanced intermediate
Size of the group	12 medical students
Course Content	A plethora of medical topics related to human anatomy, physiology, pathological conditions and their clinical manifestations, diagnostic and therapeutic procedures, diagnostic tests, drug classification and mode of administration, blood tests, surgery and rehabilitation and discussions about the specificities of some medical professions.
Teaching Materials	Medical videos and medical Powerpoints

Table 4.3. An EAMP Audio-Visual Speaking Course Profile

4.7.1. Description and 0bjectives of the Syllabus

The primary objective of the following eclectic needs-based speaking syllabus is to train the residents for real medical language use beyond the physical boundaries of the classroom setting. In other terms, to help them develop their speaking skill so as to communicate fluently, accurately, effectively and effortlessly in any scientific or medical conference. To achieve such a broad aim, the syllabus is conceived in a way to develop their speaking skill with a special focus on developing their pronunciation, grammar, general and medical vocabulary through the exploitation of relevant, interesting, purposeful, and engaging speaking tasks.

Moreover, the suggested syllabus is a pedagogic scheme that provides a sense of direction for both the teacher and the medical residents. It gives the residents an overview of what the EAMP course should look like and what is expected to be taught and obviously, how their speaking skill is supposed to become at the end of the course.

The present syllabus consists of 12 thematic medical units. Typically, each unit is longer than 2 weeks and each unit focuses on a central macro medical theme. Moreover, each unit consists of 9 lessons tied up to that theme. The rationale behind such an organisation is to ensure a sense of unity, continuity and even diversity within each individual unit so as to motivate and captivate the residents interest while keeping them engaged via connected lessons.

As regards the general layout of the units, the first unit introduces the residents to the basics of anatomy and physiology, to the common terms used to describe pain, symptoms and some medical conditions and to their equivalent anatomical terms. This unit sheds light on differences between western medicine, complementary and alternative medicine. It also covers lessons about the different types of drugs, medical equipments, the diffrents departments in a hospital and the different medical professions.

From unit 3 to unit 11, all the units are mapped out in the same way. Each unit opens with a demystified anatomy lesson and ends with discussions about the specificities of a specific medical profession and a consolidation of grammar, vocabulary and pronunciation practice of the difficult medical words. Each unit provides speaking practice about some specific medical conditions, their causes, their clinical manifestations, their clinical diagnosis and the corresponding treatment options.

The last unit is devoted to teaching strategies for preparing and delivering successful medical presentations in scientific and medical conferences. In the following table the researcher offers an overview of the suggested syllabus, followed with a vivid description of unit 3: “Circulation”.

Unit	Medical Topics	Communication Functions	Language Focus
Unit 1 **Introduction to Anatomy and Physiology and the Common Medical Symptoms**	1) Parts of the body 1: Common Terms and Minor Ailments 2) Parts of the body 2: Anatomical Terms, body planes and cavities. 3) The Body Building Blocks and Body tissues:Epithelial, Connective, muscle and Nervous Tissues 4) Symptoms and Signs 5) Medication 6) Western Medicine, Complementary and Alternative Medicine 7) Medical Instruments and Equipments 8) Who is who in Medicine: Doctors and Hospitals 9) Consolidation	❑ Describing ❑ Explaining ❑ Defining ❑ Locating ❑ Comparing	❑ Talking about the present: Present Simple & Present Continuous ❑ Frequency adverbs ❑ Pronouns and Possessives ❑ Types of Questions ❑ Relative Pronouns ❑ Phrasal verbs ❑ Pronunciation of "s" ❑ Stress in Two-syllables: Nouns,verbs ,adjectives
Unit 2 **Structure, Support and Locomotion**	1) The Skeleton and the skull 2) Bone Structure 3) Types of Bones Fractures and Sprains. 4) Spine Disorders: Scoliosis / Kyphosis / Lordosis . 5) The Healing Power and the Side Effects of Anti-Inflammatory Medications:Voltaren/Diclofennac 6) Regular Exercise and Rheumatoid Arthritis 7) Herniated Disc and Discectomy 8) Career Profile of Spine Surgeons and Physical Therapists 9) Consolidation	❑ Describing ❑ Explaining ❑ Locating ❑ Comparing ❑ Advising	❑ Adverbs of manner ❑ Prepositions of place ❑ Degree adverbs ❑ Simple past ❑ Past continuous ❑ Pronunciation of "ed" ❑ Comparative ❑ Superlative ❑ Emphatic use of as…….as
Unit 3 **Circulation**	1) The Cardiovascular System: Anatomy of the Heart and the Network of Blood Vessels. 2) Congenital Heart Disease 3) Blood Pressure: Hypertension vs. Hypotension 4) Heart failure/ Heart Attack and Arrest Cardiac 5) The Warning Signs of CVA 6) Heart Test: electrocardiography(ECG/EKG) 7) Heart Drugs	❑ Describing ❑ Explaining ❑ Locating ❑ Comparing and Contrasting ❑ Advising ❑ Expressing purpose ❑ Expressing Cause and Effect	❑ Noun formation ❑ Adjective formation ❑ Opposites formation ❑ Plural formation ❑ Passive formation ❑ Present Perfect ❑ Linking words of purpose ❑ Linking words of cause and consequence

	8) Career Profile of Cardiologists and Heart Surgeons 9) Consolidation		❑ Stress in words ending in: -ion /- ic
Unit 4 **Blood and Immunity**	1) An overview of the Lymphatic System 2) Blood Types and Blood Donation 3) Varicoses Veins 4) Anemia 5) Acute Leukemia vs Chronic Leukemia 6) HIV and AIDS 7) Treatment of Immune Deficiency Diseases 8) Career Profile of Oncologists and Hematologists 9) Consolidation	❑ Describing ❑ Explaining ❑ Locating ❑ Comparing ❑ Advising ❑ Suggesting ❑ Expressing Ability, doubt, certainty	❑ Expressing Present and Past Ability (can/ could/ be able to/ Managed to) ❑ Simple Future ❑ Expressing possibility (may / might) ❑ Silent letters ❑ Stress in compound Words
Unit 5 **Respiration and Gas Transport**	1) Anatomy and Function of Normal Lungs. 2) Bacterial Diseases:Tuberculosis and Antibiotics. 3) Acute Bronchitis vs. Chronic Bronchitis 4) Asthmatic Children and Bronchodilators. 5) Pharyngitis vs Laryngitis 6) Smoking and Lung Cancer 7) Tonsillitis and Tonsillectomy 8) The Challenging Work of a Radiologist 9) Consolidation	❑ Describing ❑ Explaining ❑ Locating ❑ Comparing ❑ Advising ❑ Agreeing ❑ Disagreeing	❑ Question Tags ❑ Agreement and Disagreement Tags ❑ Linking words : both …. and either….. or neither…. nor ❑ Present perfect Continuous ❑ Giving advice: Should/ ought to/had better
Unit 6 **Nutrition**	1) Anatomy and Physiology of the Gastrointestinal System 2) Stomach Disorders and Gastroscopy 3) Appendicitis and Appendicectomy 4) Lactose Intolerance 5) High Fat Diet and Colon Cancer 6) Colitis and Colonoscopy 7) Hepatitis Types :A/B/C 8) Career Profile of a Nutritionist 9) Consolidation	❑ Describing ❑ Explaining ❑ Locating ❑ Comparing ❑ Advising ❑ Expressing Obligation and absence of obligation ❑ Quantifying	❑ Expressing Obligation must/ has to/ have to ❑ Expressing absence of obligation: don't need to/don't have to / needn't ❑ Quantifiers:Some/any/ No and None ❑ Quantifiers: (a)few vs (a) little
Unit 7 **Skin Care**	1) The Integumentary System: Structure and Function 2) Treating and Preventing Acne and Eczema . 3) Toenails Diseases: Fungal Nail	❑ Describing ❑ Explaining ❑ Predicting ❑ Advising	❑ Conditional sentences: type 0 / type 1/type 2 ❑ Conditional sentences with: unless

	Infection 4) Some Facts about Psoriasis 5) Chickenpox and Measles Vaccination 6) Dry Skin Care: The Best Vitamins for the Skin. 7) Hair Problems and Hair Loss. 8) A Career in Dermatology 9) Consolidation	❑ Expressing a Wish ❑ Reassuring a patient or a colleague	❑ Linking words of contrast; while,whereas however ❑ Linking words of addition; besides, … ❑ Wish sentences hope vs wish
Unit 8 **Filtration and Excretion**	1) An Overview of the Urinary System 2) Anatomy and Physiology of the Kidneys. 3) Kidney Failure and Hemodialysis 4) Urinary Tract Infections 5) Bladder Diseases 6) Kidney Transplant 7) Urostomy 8) Choosing Nephrology as a Career 9) Consolidation	❑ Describing ❑ Promising ❑ Hypothesizing ❑ Explaining ❑ Defining ❑ Deducing from medical facts	❑ Expressing conditions: as long as/so long as/provided that / providing that ❑ Adverbial Time clauses: as soon as, till/until, … ❑ Modals of Deduction: Must be /can't be
Unit 9 **Body Chemical Messengers**	1) Endocrine System: Glands and Hormones 2) Diabetes Type1 vs. Diabetes Type2 3) Menopause : The Benefits and the Risks of Hormone Therapy. 4) Adrenals Disorders: Addison Disease and Cushing's Disease 5) Hormone Use and Abuse 6) Premature Ovarian Failure 7) Thyroid Carcinoma and Chemotherapy 8) A Career Profile of an Endocrinologist 9) Consolidation	❑ Describing ❑ Explaining ❑ Defining ❑ Comparing and contrasting	❑ Useful Expressions for keeping conversatuions going. ❑ Defining Relative Clauses ❑ Non-defining Relative Clauses ❑ "-ing"and "ed" Clauses ❑ Comparative: Much better/any better ❑ Double Comparative: Better and better / More and more
Unit 10 **Nose, Ears and Eyes: Clinical Conditions**	1) Chronic Sinusitis vs.AcuteSinusitis 2) Eye Anatomy and Ear impairment 3) Ears infections: Otitis Media 4) Eye diseases: Cataracts and Glaucoma 5) Coloured Contact Lens Dangers 6) The Pink Eye: Conjunctivitis 7) Laser Eye Surgery 8) Carreer Planning: An Interview with an Ophthalmologist 9) Consolidation	❑ Blaming ❑ Regretting ❑ Explaining ❑ Defining ❑ Comparing	❑ Conditional Type 3 ❑ Modal auxiliaries of Probability in the past; could have +pp might have +pp shouldn't have +pp needn't have +pp ❑ Adjectives ending in "-ing" or "–ed"

Unit 11 **Irritability and Body Responses : Mental Hygiene**	1) The Structural Organisation of the Nervous System 2) Attention Deficit- Hyperactivity Disorder (ADHD) 3) Insomnia and Other Sleep Disorders 4) Manifestations of Mental and Behavioural Disorders 5) Alzheimer's Disease and Alzheimer's Caregivers 6) Eating Disorders :Anorexia Nervosa vs. Bulimia 7) Overcoming Panics Disorders : Mood Stabilisers and Anti-Anxiety Drugs. 8) A day in the life of a Psychiatrist 9) Consolidation	❑ Describing ❑ Explaining ❑ Locating ❑ Comparing ❑ Reporting Speech of others	❑ Reported Speech He told me that… ❑ Reporting in the present ❑ Reporting in the past ❑ Reporting Questions ❑ Reporting Orders and Requests ❑ Reporting Suggestions and Advice ❑ The use of: still, no longer,any longer,any more
Unit 12 **Medical Presentations: Tips and Techniques**	1) Effective Medical Conference Presentations: Tips for Successful Introductions and Smooth Transitions 2) Effective Medical Conference Presentations: Making Impactful Conclusions and Tips for Evading Difficult or Embarrassing Questions. 3) Verbalising Numerical Data: Describing Tables and Comparing Variables. 4) Explaining and Commenting on Single Line Graphs. 5) Explaining and Commenting on Multiple Lines Graphs. 6) Interpreting Bar Charts 7) Interpreting Pie Charts 8) Interpreting Flow Charts 9) Consolidation	❑ Greeting and thanking ❑ Introducing oneself ❑ Accentuating key points ❑ Expressing approximation ❑ Expressing numbers ❑ Analyzing and Discussing Results of Case Studies	❑ Useful phrases for delivering medical presentations : Emphasising , Contrasting, Listing points, Referring to slides ❑ Useful vocabulary for commenting on different types of charts and graphs ❑ Vocabulary related to numbers and related terms.

Table 4.4. The Syllabus Layout

To ensure a successful completion of this medical English syllabus, the number of the residents expected to enroll in the EAMP course should be restricted and should not exceed 12 participants, so as all the participants will have equal attention and a fair share of participation. A small class size may help the teacher to examine the apparent speaking difficulties of all the residents and follow the progress of every one.

The syllabus will be put in practice via a well-thought out exploitation of audio-visual materials.i.e;via medical videos retrieved from the net and via medical PowerPoints presentations.

4.7.2. Description of a Sample Unit

The most common way of organising any syllabus content is through a thoughtful planning and careful sequencing of individual units. Hyland (2003; 76) defines units as "instructional blocks of several lessons planned around a single instructional focus or theme." In designing the individual units of the suggested syllabus, the researcher complied to Richards' five key elements to take into account while planning an effective unit plan. From his perspective, a successful unit should take into consideration the following 7 critical factors:

1) Length: sufficient but not too much material is included.
2) Development: one activity leads effectively into the next; the unit does not consist of random sequence of activities.
3) Coherence: the unit has an overall sense of coherence.
4) Pacing: each activity within the unit moves at a reasonable pace.
5) Outcome: at the end of the unit, students should be able to know or do a series of things that are related.

(Richards:2001,166)

Based on Richards' guidelines, the researcher designed the twelfth thematically-based units of the suggested medical syllabus.The following selected sample unit is an illustration of what the rest should be like. It is the third unit in the syllabus. It is a compilation of 9 lessons planned around heart and blood circulation.

4.7.3. The Objectives of the sample unit

The present sample unit is geared to raise the residents awareness of the complexities of medical English language . Upon the completion of this didactic unit the residents should be able to:

- Locate and describe the structure of the cardiovascular system and discuss its primary functions.
- Recognize, pronounce and spell medical terms related to the cardiovascular system.

- Identify and interpret medical abbreviations referring to the heart and circulation.
- Define the main medical terms pertaining to the cardiovascular system.
- Recognize the roots pertaining to the cardiovascular system and build medical words .
- Describe pathological conditions, diagnostic and therapeutic procedures.
- Explain pharmacology related to the treatment of cardiovascular disorders.
- Describe the profile of a cardiologist and a heart surgeon and their daily medical duties in a cardiology department.
- Demonstrate their knowledge of the cardiovascular system through a variety of speaking tasks encompassing individual work, pair work, group work and whole class medical discussions.

4.7.4. A Prototype Instructional Lesson Plan

To fulfill the underlined objectives of the suggested EAMP speaking syllabus, all the lessons of the unit are organized in the same way.They are three-phase lessons. Each lesson consists of a pre-watching, a while watching and a post watching phase. Moreover, each lesson starts with a quick review and a 5-minute warm up speaking activity.The review connects the current lesson with previous lessons by going over points that were taught or learnt previously. It allows the residents to demonstrate what they have learnt and what they remember. Furthermore, the review generally contains a pronunciation activity of the difficult or the mispronounced medical terms.

Concerning the warm up speaking activity, it is a 5-minute activity, in which a number of thought provoking pictures related to the lesson's topic are projected on a datashow screen to introduce some key medical vocabulary and the residents are asked to identify those prompt pictures and answer some related questions.The rationale behind such ice- breaking and gear shift activity is to generate discussion and to induce the residents to talk at some length from the very beginning of the lesson.It is a good way to stimulate their motivation, help them get in the mood for class, to activate their schemata, and to set the tone for the next.

As regards the pre-watching phase, it is necessary for a better exploitation of the medical videos. It consists of lead - in tasks aiming to facilitate the comprehension of the medical language used in the intended videos. It also seeks to make the residents focus on the topic of the lesson.In fact,the more residents are focused on the topic before watching the videos, the better their comprehension is likely to be.

As far as the watching-phase is concerned, it is very challenging.The residents have to make sense of the videos at one hand and the tasks at the other hand.Therefore, they should read the tasks before the video sequences are played, so as to have a focus for their viewing. Each video sequence has one or more tasks:watch and take notes, watch and fill in gaps , watch and pick out the right answer to questions, and describe a process,etc...).

Such tasks are devised to develop in the residents a number of abilities such as watching and getting the gist, watching and understanding details, paying attention to specific features in Medical English pronunciation, paying attention to discourse markers/sequencers when watching a medical documentary, lecture, a report etc.. These accuracy tasks may be performed individually, or in pairs .i.e, they may enhance individual learning as well as peer learning.

Indeed during the watching phase, the residents are prompted to notice, reflect and analyse how medical English is used and later to recall the language acquired with greater control and ease during production.The tasks of this phase draw student's attention to the discrepancies existing between the pronunciation system and the spelling system in English. This may increase their understanding of the sound-spelling relationships that characterise medical English.

Moreover,the constant and regular use of authentic medical videos and medical PowerPoints in lessons may help the residents to gradually 'train their ears' to be more perceptive of the subtleties of English pronunciation, stress and intonation. Infact, the more students are attuned to watch authentic medical videos, the better they become at discriminating between sounds in various utterances and the more acute their reception of an auditory medical message become and their retention of medical concepts may increase significantly. Hence, their comprehention and interpretation of a medical audio-visual input may get better and better, and more importantly, their pronunciation

may improve.Indeed, the more intelligible the pronunciation becomes,the more effective the transmission of the message.

The post- watching phase is the critical stage of the lesson, during which the residents demonstrate through speaking tasks what they have learnt in the lesson.It is sometimes followed with short grammar tasks or extra vocabulary tasks.

To put it in a nutshell, the researcher tried as much as possible to organise the tasks in the lessons in a logical and a methodical way so as the residents get familiarized with the lesson stages and know what they are expected to do at each stage. Moreover, the tasks are intended to make the residents progressively develop three competencies: interpretation of an oral medical information, production of a comprehensible piece of oral medical speech and third to ensure active speaking interaction with peers.The researcher's uttermost goal was to look for ways to enhance both the residents'speaking accuracy and fluency and to instill in them ease and confidence regarding their communicative use of medical English and hopefully to ignite in them a lifelong passion for keeping medical English up to date.

4.7.5. Sample Lessons

- **Lesson One:** Anatomy of the Heart and the Network of Blood Vessels.
- **Lesson Objectives :** By the end of the lesson students should be able to :
    - Describe the basic functions of the heart and the circulatory system that make up the cardio- vascular system.
    - Describe the structure of the heart
    - Trace the path of a blood cell through the cardiovascular system
    - Discuss how to keep the cardiovascular system healthy
    - Form adjectives and plurals
- **Lesson Outline :**
- **Anticipation:** Look at the photos:
    1- What do they show?
    2- Discuss their relationships to heart diseases
    3- What is a heart disease?
    4- What are the risk factors?
    5- How to prevent heart disorders?

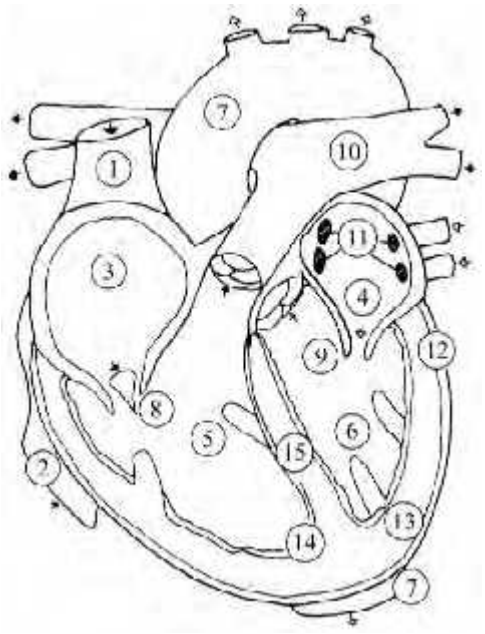
- **Pre-Watching Phase:**
- **Task one:** Match the words with their corresponding definitions

Septum	1. a flap which open and closes to allow liquid to pass in one direction only.
Heart beat	2. blood which has received oxygen in the lungs and is carried to the tissues along the arteries
Valve	3. blood from which most of the oxygen has been removed by the tissues.
Aorta	4. a wall between two parts of an organ.
Oxygynated blood	5. the main and the largest artery in the body.
Deoxygynated Blood	6. the regular noise made by the heart as it pumps blood.

- **While-Watching Phase:**
- **Task two:**Watch the video carefully and answer the following questions.
  1. What is the function of the heart?
  2. How many valves are there in the heart?
  3. What are they called?
  4. Why do they open and close immediately within each heart beat?
- **Task three:** Watch the video carefully to complete the table below.

Part of the heart	Function
pulmonary artery	
Aorta	
pulmonary veins	
Septum	

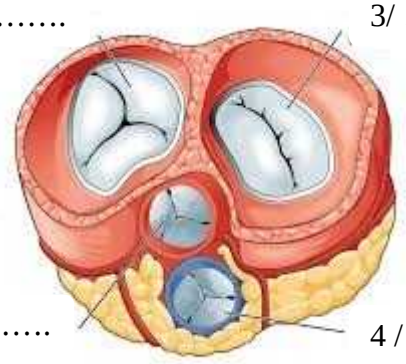
- **Task four:** Watch the video carefully and name the different parts of the heart.



1. .....
2. .....
3. .....
4. .....
5. .....
6. .....
7. .....
8. .....
9. .....
10. .....
11. .....
12. .....
13. .....
14. .....
15. .....

- **Task five :** Watch the video and name the different valves of the heart.

1 / ……. 3/ …….



2 / ……. 4 / …….

- **Post-Watching Phase**
- **Task six:** Fill in the gaps with the appropriate words.
  healthy / enters / vary/ opens / blood / Leaves / artery / muscle/ closing / Valve / diseases / aorta / beat / lungs / size / chest / size

The heart is a ……. . It is located under your ribcage in the center of your ……. between your right and left ……. . Its muscular walls beat, or contract, pumping blood to all parts of your body.

The ……. . of your heart can ……. . depending on your age, size, and the condition of your heart. A normal, ……. . , adult heart usually is the size of an average clenched adult fist. Some ……. can cause the heart to enlarge.

On its circular journey around the body , blood……. the heart twice , once with oxygen and once without oxygen.Blood without oxygen comes into the right side of the heart. It fills the right atrium.Then the tricuspid valve……. and the blood goes into the right ventricle.Then , the pulmonary ……. opens and the blood ……. through the pulmonary …….

…….carrying oxygen comes into the left side of the heart.The left atrium fills the mitral valve opens and the blood flows into the left ventricle.The aortic valve opens and the blood leaves through the…….
When you listen to a heart ……. You hear lub, dub , ub, dub ,.This is the sound

- **Task seven:** Orally summarize the video, tracing the path way of a blood cell through the cardiovascular system.
- **Task eight:** Imagine you were invited to present a morning show about how to keep a healthy heart, prepare a compelling talk to advise the listeners.(use phrasal verbs learnt in unit1)

 **Spotlight on Vocabulary:** 

- **Adjective formation:**
- **Task nine:** Which adjectives can be derived from the following nouns.

Noun	Bacteria	Vein	circulation	Infection	virus	prevention	death	treatment	myocardium
Adjective									

Noun	operation	Aorta	Blood	Artery	cure	diagnosis	pain	valve	muscle	control	Therapy
Adjective											

 **Spotlight on Grammar:** 

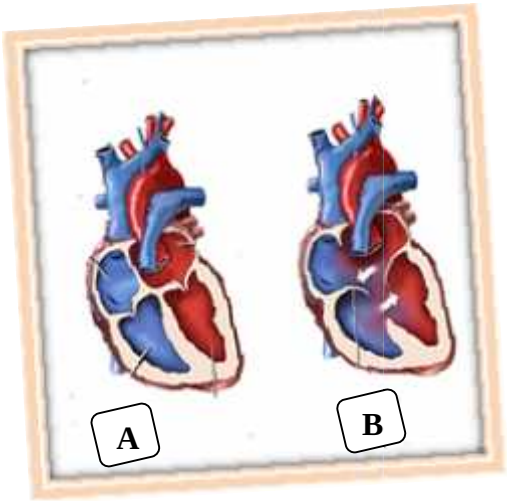
- **Word building : Noun Formation**
- **Task ten :** Give the plural form of these words:

Singular	**Plural**	**Singular**	**Plural**
1. artery	……	7. varix	……
2. atrium	……	8. capillary	……
3. diagnosis	……	9. bacterium	……
4. syringe	……	10. analysis	……
5. septum	……	11. vein	……
6. Cardium	……	12. virus	……

- **Lesson Two: Congenital Heart Disease**
- **Lesson Objectives :** By the end of the lesson students should be able to :
  - Describe the different types of CHD;
  - Explain the causes of CHD.
  - Explain the symptoms and the diagnostic procedures.
  - Explain the treatment options of CHD.
  - Deliver an awesome 10 mn talk about CHD.
  - Talk using the present perfect tense
  - Derive nouns from verbs and adjectives
- **Lesson Outline :**
- **Anticipation:** Look at the photos:
  1) What do they show? Guess what's the topic of today's lesson?
  2) Which heart is normal 'A' or 'B' ? why?

Every 15 Minutes....

a baby born with ....



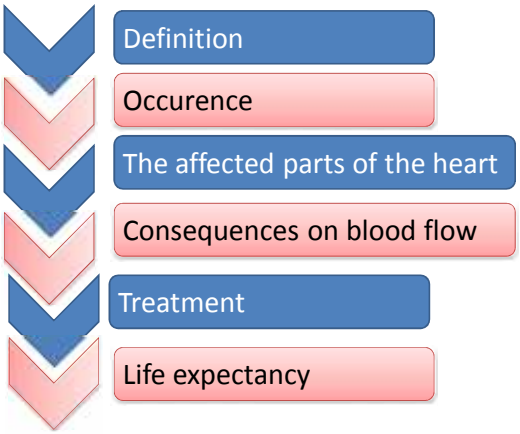
- **Pre-Watching Phase:**
- **Task one:** Match the words with their corresponding definitions.

▪ Conception
▪ Congenital
▪ Disrupt
▪ Defect
▪ Slow down
▪ Transplant

1 .A physical condition in which something is wrong with a part of someone's body.
1. To prevent something, especially a system, process from continuing as usual or as expected.
3 .The point at which the woman becomes pregnant and the development of a baby starts.
4 . Reduction in speed activity
5.A procedure which involves taling an organsuch as heart or kidney or tissue such as skin and grafting it into someone to replace an organ or tissue which is diseased or not functioning properly.
6.A condition occuring during fetal development or at the time of birth.

- **While-Watching Phase:**
- **Task two:** Watch the video carefully and answer the following questions.
  1) What is a congenital heart defect?
  2) When does a baby's heart begin to develop?
  3) What structural defects are mentioned in the video?
  4) Is there any treatment?
  5) How can a congenital heart defect affect the blood flow in the heart?
  6) Can children born with congenital heart defects grow to adulthood?
  7) What does the treatment depend on?
- **Task three:** Watch the video carefully. Then prepare a short talk about the different types of CHD: VSD, ASD, PFO and PDA
- **Post-Watching Phase:**
- **Task four:** Answer the following questions.
  1) What are the clinical symptoms of congenital heart disease?
  2) Can gynaecologists identify a congenital heart defect before birth during pregnancy?
  3) If a new born baby has this problem,do they operate him immediately or later ?
  4) Do we have such operations in our hospital?

- **Task five:** Prepare a 10 mn awesome talk about congenital heart disease covering all the points outlined on the slide show.



Spotlight on Grammar:

- **Present Perfect:**
- **Task six:** Make questions with: **Have you ever…….?**

1. donate /blood to someone?
2. donate/money to a cancer association?
3. be/international conference out of Algeria?
4. write / medical article?
5. misdiagnose / a medical condition?
6. suffer/insomnia?

7. spend/sleepless nights studying?
8. lose /a valuable medical book?
9. win /a scholarship?
10. make/a serious medical mistake?
11. Break/bad news to cancer patients?
12. Read/the Canon of Medicine?

- **Task seven:** Rewrite the sentences with « yet ».

eg ; Salim is going to have a heart transplant.
Salim has not had a heart transplant,yet.

1) Mr.and Mrs. Slimani are going to donate blood.
2) I'm going to have a fetal echocardiography next week.
3) The nurse is going to remove the surgical sutures.
4) He is flying to Paris for stem cells treatment.
5) My grandmother is going to follow a TIA recovery physical therapy.
6) The nurse is going to draw four vials of blood from the old man.
7) The anesthesiologist is going to inject local anesthesia.

- **Task eight:** Complete the sentences with **« for »** or « **since** ».

1) The pregnant woman has been in the intensive care unit ……. last Monday.
2) She has worked as a pediatric heart surgeon ……. more than eight years.
3) He has quitted smoking ……. he had a small heart attack.
4) She has not attended a medical congress ……. 2005.
5) I have not reported an ECG with a WPW syndrome ……. I was a resident.
6) Asma is still in the operating theatre. She has bben there ……. 8a.m.
7) I have stopped donating blood ……. I had anemia.
8) Dr.Kias has been the vice chairman of the department of surgery "A" ……. 1998.

Spotlight on Vocabulary:

- **Word building : Noun Formation**

- **Task nine:** Look at the list of adjectives then complete the table.

Adjective	Noun	Ending
Ill …….. ……..	Illness …….. ……..	+ ness
Different ……..	…….. ……..	nt /nce
Pregnant Safe	Pregnancy ……..	+Y
Strong ……..	Strength ……..	+th
Bloody allergic ……..	Blood …….. ……..	No ending

dizzy – feverish – sore – pale – conscious –sick – blind –tired – sore - fit – persistent – risky – weak- silent –poisonous – painless -important – difficult – violent - safe- numb – tolerant – significant- deficient - dangerous hygienic- long –deep - harmful – absent- bacterial .

- **Task ten:** **A/** Complete the table.Which nouns can be derived from the following verbs:

B/ Complete the second sentence so as to have the same meaning as the first.

VERB	NOUN
to suffer	
to vaccinate	
to infect	
to prescribe	
to diagnose	
to operate	
to cure	
to recover	
to analyse	
to paralyse	
to fracture	
to stitch	
to degenerate	
to exceed	
to swell up	
to bandage	
to obstruct	
to x-ray	

7-This disease cannot be **cured**.
There is no ….....……

8-Amina has **recovered** miraculously from her operation.
She has made a .....…….....…….

9-The lab **analysed** the urine and the blood samples.
The lab made an .....

10- Her right arm and right leg **were paralysed** after the stroke.
She suffered.....

11- Her Tibia **fractured** in two places.
There were.....

12-The nurse tried **to stitch** back the thumb which had been cut off in a car accident.
The nurse tried .....

13-Her condition has **degenerated** after the death of her twin babies.
There has been .....

14-The amount of cholesterol in the blood sample **exceeded** the norm.
There was .....

15-My arm **swelled up** where I was stung by a wasp.
I had .....

16-The nurse **bandaged** up the child's leg.
The nurse.....

17-The blood flow to the brain **was obstructed** by a clot.
The blood clot was forming an .....

18-His hip had to be **x- rayed**.
He.....

.

1- The pregnant woman **suffered** too much.
She experienced so much …….....……

2- Children must be **vaccinated** against measles.
Children.....

3-He found that the root of the tooth was **infected.**
He found .....

4-The pediatrician **prescribed** a course of Amoxicillin.
She wrote a .....

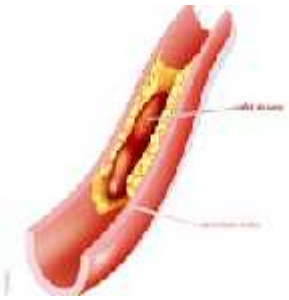
5-The cardiologist **diagnosed** heart failure.
The cardiologist's .....

6-They **operated** him last night.
The.....

- **Lesson Three: Blood Pressure: Hypertension and Hypotension**
- **Lesson Objectives :** By the end of the lesson students should be able to :
  - Talk about the causes and symptoms of hypertension and hypotension
  - Talk about the
  - Express ideas using the passive voice
  - Form opposites using negative prefixes
- **Lesson Outline :**
- **Anticipation:** Look at the photos:

6- Which annual medical event happens on May17th?

7- Which medical condition are the pictures related to?









- **Pre-Watching Phase:**

- **Task one:** Read the definitions of heart conditions, then complete the table with the right medical terms.
  Atherosclerosis, Congestive Heart Failure, Stroke, Heart attack

Cardiac Diseases	Definitions
	a) It happens when the flow of oxygen-rich blood to a section of heart muscle suddenly becomes blocked and the heart can't get oxygen. If blood flow isn't restored quickly, the section of heart muscle begins to die.
	b) a sudden blocking of or bleeding from a blood vessel vessel in the brain resulting in temporary or permanent paralysis or death.
	c) Arterial disease in which plaque builds up inside your arteries.
	d) A heart condition in which the heart can't maintain the output of blood to meetthe demands of the body. It may affect the left or right sides of the heart, or both sides.

- **While-Watching Phase:**

- **Task two :** Watch the first video sequence.Then, explain the following medical concepts.
  - Systolic pressure: ……
  - Diastolic pressure: ……
  - Pre-hypertension: ……...
- **Task three:** Watch the second video sequence.What pieces of advice did professor Brian Williams give to the viewers about BP?

- **Task four:** Watch the third video sequence.Then,complete the table below with the necessary information.

HYPERTENSION	Explanation
Causes ► Stenosis ►Norepinephrine ►Pheochromocytoma ►Hyperaldosteronism ►Hyperthyroidism ►Kidney dysfunction	➢ ..... ➢ ..... ➢ ..... ➢ ..... ➢ ..... ➢ .....
Medical Treatment: **Anti-hypertensive Drugs** ► ..... ►	➢ ..... ➢ .....

- **Post-Watching Phase:**
- **Task five:** Make an oral summary about hypertension by answering the following set of questions

1. What is the difference between systolic pressure and diastolic pressure?
2. What are the medical consequences of having hypertension?
3. What kind of tests determine if a patient suffers from hypertension?
4. Does one elevated BP reading mean that a patient has BP?
5. How will hypertension affect the daily life of a patient?
6. What happens if hypertension is left untreated?
7. Do the patient need to make dietary changes such as cutting out sodium?
8. Would exercise help lower BP?
9. Would losing weight help lower BP?
10. Can stress affect BP?
11. What are the risks if a patient doesn t take the medication as directed and what should he do if he forgot to take it?
12. Are there any recent clinical studies about hypertension?

- **Task six:** Complete the table below.Then prepare a short talk about the main differences between hypertension and hypotension.

	Hypertension	**Hypotension**
Causes		
Symptoms		
Effects		
Treatment		

Spotlight on Grammar:

- **Passive Voice:**
- **Task seven:** Complete the second sentence so as to have the same meaning as the first.

1- The coronary arteries supply oxygen-rich blood to the heart.
► Oxygen……
2-This heart damage may cause severe or long-lasting problems.
► Severe……
3- The surgeon cuts out a piece of the patient's enlarged left ventricular muscle.
► A piece of …...……
4- Atherosclerosis can affect any artery in the body.
► Any artery……
5- Health care providers develop treatment plans for high blood pressure.
► Treatment……

6- Hypertensive patients must limit sodium and salt intake.
► Sodium……
7- Too much alcohol will raise blood pressure and triglyceride levels,
► Blood pressure……
8-The doctor has diagnosed hypotension.
► Hypotension……
9- The doctor did not prescribe Amlor.
► Amlor……
10-The doctors are predicting a rise in the cases of cardiac diseases in Algeria.
► Severe……
11- Blood clots can partially or completely block blood flow.
► Blood flow……
12 -The nurses speedy actions have not prevented further complications
► Further……
13- All surgical instruments must be properly separated and placed in leakproof.
► Theatre nurse ……
14- Did the patient notice any side effects of amlodipine?
► Were ……

Spotlight on Vocabulary:

- **Forming opposites.**

- **Task eight:** Give the opposites of these words.Then, put them in sentences of your own.

chronic ≠	major ≠	prevent ≠ .....
alive ≠	dangerous ≠	implant ≠ .....
deteriorate ≠	reduce ≠	weak ≠ .....
front ≠	benign ≠	relapse ≠ .....

- **Task nine:** Add the right negative prefix to form the opposite. Then, put them in sentences of your own.

Prefixes	**Words**			
un-	treatable	conscious	mobile	legal
in-	comfort	fertility	stable	rational
im-	logical	infect	sanitary	use
il-	diagnose	compatible	mature	fit
ir-	contaminated	dependent	active	responsible
dis-	locale	curable	sane	predictable
mis-				

- **Lesson Four: Heart attack, Cardiac Arrest and Heart Failure**
- **Lesson Objectives :** By the end of the lesson students should be able to :
  - Talk about: warning signs of SCA ,CHF and MI.
  - Talk about coronary heart disease.
  - Talk about bradycardia and tachycardia.
  - Talk about treatment options of SCA ,CHF and MI
  - Talk about the preventive measures.of SCA, CHF and MI
- **Lesson Outline :**
- **Anticipation:** Look at the photos:
  - What heart condition does each photo refer to?

Heart condition ?

- Match each medical condition with the corresponding medical abbreviation.
- What does each medical abbreviation stand for ?

1. Heart attack SCA : …… …… ……
2. Heart arrest CHF : …… …… ……
3. Heart failure MI : …… ……

- **Pre-Watching Phase:**
- **Task one:** Say whether the following medical information is true or false.

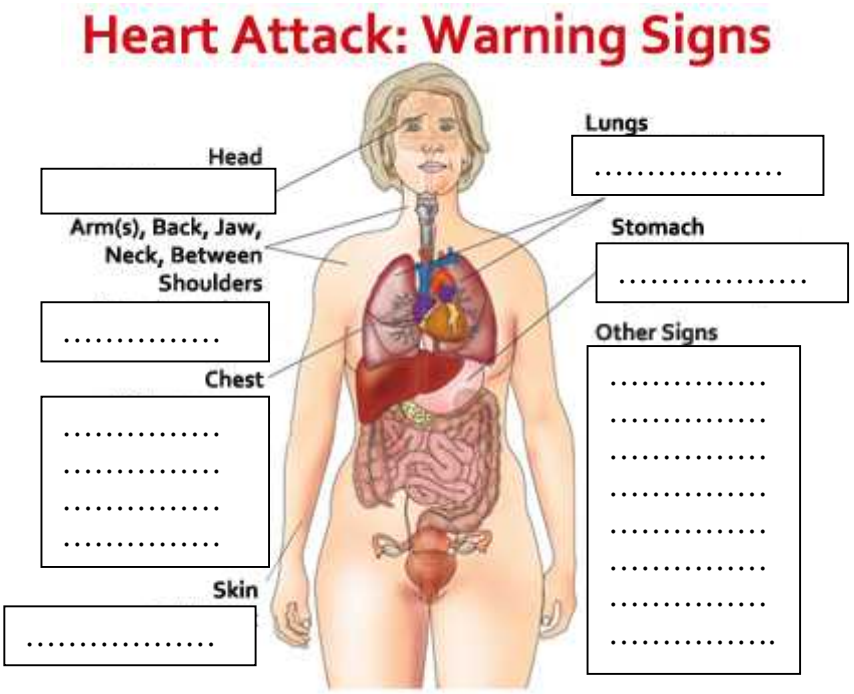
1) Heart attack and heart arrest can be used interchangeably to indicate the same heart condition .
2) If heart failure is left untreated, it may cause kidney failure and liver damage.
3) Heart attack cannot be caused by daily stress.
4) Some diet pills and birth control pills may cause heart failure.

- **While-Watching Phase:**
- **Task two:** Watch the first video carefully .Then, Fill in the gaps to get a coherent definition of heart attack.

Heart Attack

A heart attack occurs when a blood ……. that ……. the heart muscle becomes ……. .Blood ……. stops to a part of the heart.If treatment is not done right away.This part of the heart ……. dies.A ……. form in this part of your heart. ……. may occur from : ……. ……. called plaque , a ……. in the blood vessel , a blood ……. .

- **Task three:** Watch the second video carefully .Then, complete the picture with the different warning signs of heart attack. Add the other signs which are not mentioned in the video.



- **Task four:** Watch the second video about cardiac arrest carefully .Then, complete the table.

Medical Term	Definition
	An emergency technique to make a patient's heart start beating again.It involves clearing the airways and then alternately pressing on the chest and breathing into the mouth.
	Variation in the rhythm of the heartbeat.
	Also called cardioversion.It is a procedure to correct an irregular heartbeat by applying a large electrical impulse to the chest wall especially in potentially life threatening circumstances.

- **Task five:** Watch the third video about congestive heart failure carefully .Then, complete the table below.

Definition	Causes	Symptoms	Medical Advice
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

- **Post-Watching Phase:**
- **Task six: Guided Discussion**

1) What are the risk factors for a heart attack ?
2) How do the symptoms of heart attack differ between men and women ?
3) How is a heart attack diagnosed ?
4) Can a heart attack be prevented ?
5) How is a heart attack treated ?
6) Are heart attack survivors at a great risk of another attack in the future ?
7) What measures can a person predisposed to heart disease because of family history take to avoid developing cardiovascular diseases ?
8) What is the difference between bradycardia and tachycardia.
9) What are the clinical signs of a mild,moderate and a severe heart failure ?
10) How is a heart failure condition likely to progress and what medical complications it might cause?
11) How does heart failure affect the life of the patient ?
12) What must heart failure patients do and what should they avoid to
13) Do cancer tratment,radiation and chemotherapy drugs cause heart failure ?
14) Is there a link between alcohol abuse and heart failure
15) Do too much or too little thyroid hormones cause heart failure ?
16) What can bystanders do to save someone having a cardiac arrest or a heart attack ?
17) Can children be subjects to heart attack and heart failure ?

- **Task seven:** Prepare a short talk in which you reassure anxious patients who experienced a heart attack. Explain to them the recovery program they have to follow so as to avoid heart attack from reoccuring in the future.

- **Task eight:** Prepare a short talk in which you explain to patients without medical background how to make a clear distinction between myocardial infracrion, sudden cardiac arrest and congstive heart failure.


Spotlight on Grammar:


- **Linking words of purpose:**
- **Task nine:** Complete the sentences using your own words.

1) They implanted a cardiac pacemaker **in order to** ……
2) Surgeons used CABG **so as to** ……..……...……..……..
3) The patient cut down his salt intake **so as not to** ……...……...……
4) She follows a low - fat diet **in order not to** ……..……
5) The doctor prescribed Warfarin **so as to** ……...……

****


To offer a clear idea and a full picture of this sample unit, the remaining lessons of this unit are classified in appendix 'M' and the video transcripts of all the lessons are arranged in appendix 'N'

4.8. A PROPOSAL FOR RE- LAUNCHING ELECTIVE EMP COURSES AT THE FACULTY OF MEDICINE

Based on the satisfactory findings of the present quasi-experimental study,the researcher suggests re-launching EMP courses at the heart of the faculty of medicine. As indicated so far in chapter two, in 2010-2011 and 2011-2012 the faculty of Medicine in a collaboration with the CEIL introduced elective courses for Medical English, one for specialists and teachers at the faculty of medicine, the other for residents, The courses were not compulsory and free of charge, residents and teachers

were free to join the courses. Since then, no initiative was taken on the part of the medical administrators, to offer EMP courses for medical students.

It would be no exaggeration to say that at the dawn of the twenty first century, English mastery is no longer a choice but a must in the age of Information and Communication Technologies. Medical students should no longer remain deprived of English instruction, medical administrators should re-launch elective EMP courses as soon as possible. In fact, the residents' overriding need for English and the pitiful state of English at the faculty of medicine calls for urgent strategic actions.

Since Doctors and residents do not need English in their day-to-day communications with patients and colleagues, they do not need EOMP courses but rather EAMP courses so as to have access to medical literature and possibly to join international medical discourse communities. Taking into account, the interesting results of this small-scale study, the researcher advocates similar courses in the future for the residents.

Yet, to ensure high quality learning and teaching of medical English.The faculty of Medicine in collaboration with English department or the CEIL centre may launch EAMP courses that are graded from elementary ones covering only basic medical English to advanced ones in which medical instruction is more elaborated. In addition to that, the faculty may launch an audio-visual conversation course for residents. In such a course, students will develop progressively their speaking skill via discussions based on authentic medical audio-visual materials.

To sum up, there can be no doubt that medical administrators who are running efficiently the faculty of medicine and who are always striving to provide the best quality medical courses to their students, acknowledge the vital importance of English but they have not taken any action plan since the introduction of the former EMP courses. In fact, launching elective audio-visual speaking EAMP courses is a viable and a worthwhile project of inestimable value for residents.Thus, it is high time, to do something to serve the community of residents .

4.9. RECOMMENDATIONS FOR FUTURE RESEARCH

Every study, no matter how well it is conducted and constructed, has limitations and this quasi- experimental study is no exception. First of all, it was subject to the usual methodological limitations inherent to quasi –experimental research which is lack of randomization of the participants. Another obvious limitation lies in the relatively small size of the control group and the experimental group. Though , the small groups are more adequate to ensure fair and equal speaking opportunities for all the participants , the research findings cannot be generalisable to the large population of third year medical residents.

Taking these noteworthy limitations into account, more exhaustive and comprehensive research is recommended to study the same research problematic possibly with a larger number of participants. Moreover, in the present study the participants were from different medical specialities, thus future studies may be far more specific including participants from the same medical speciality and the audio-visual material used to teach the speaking skill should be closely related to such a medical speciality. For instance, future studies may examine the effectiveness of audio-visual instruction in developing the speaking skill for oncologists; therefore, the audio-visual materials and the accompanying medical speaking tasks should be driven only from oncology and the course would be Medical English for oncologists.

4.10. CONCLUSION

In this last chapter, the researcher translated the essence of this quasi-experimental study into proposals and illustrations of an EAMP audio-visual speaking course. The chapter opened by highlighting the pedagogic benefits of medical audio-visual materials, it also included some recommendations about materials selection and use,and put forth some key criteria to account for while designing speaking tasks. At the heart of the chapter,the researcher suggested an EAMP speaking syllabus, with twelve medical thematically based units, geared towards raising the residents awareness of the complexities of Medical English language and aiming at developing progressively their speaking skill.The chapter closed with a model of a didactic unit and some further recommendations.

GENERAL CONCLUSION

Medicine is developing day after day at an incredible pace, especially in developed countries. Many life-threatening diseases that were incurable in the past are nowadays treatable thanks to new tested medications, continuous international medical research and amazing medical technology innovations. Therefore, Algerian medical professionals who are anxious to quench their thirst for up-to-the minute-medical research published in English or who have a strong desire to present their research findings beyond the boundaries of Algeria need a sound knowledge of medical English because English is the vehicle of transnational medical communication.

The striking reality is that the Algerian Ministry of Higher Education and Scientific Research acknowledge the importance of English, but officially, in medicine, English is included in the medical curricula neither in graduation nor in post- graduation. Besides, it would be no exaggeration to say that at the dawn of the twenty first century, English mastery is no longer a choice but a must in the age of Information and Communication Technologies.

Therefore, the mission of English Language teachers or more specifically ESP teachers is to equip medical students with the necessary language skills to join international medical discourse communities and to benefit greatly from medical web-based resources. Thus, ESP teachers must look for the most effective teaching methods and medical materials to satisfy medical students' overriding need for effective and efficient medical courses that help them to build up a rigorous linguistic knowledge and reach a satisfactory level of English proficiency so as to broaden further and further their academic medical horizons.

The researcher as a novice medical English teacher very keen to help feverish and inquisitive medical students wishing to learn English to achieve clinical excellence, wondered about the possibility of incorporating audio-visual medical materials in an academic medical English course. The raison d'être of the present small scale classroom research was to try out medical videos retrieved from the net together with medical PowerPoints to teach medical students medical English with a special focus on developing the speaking skill so as to help them speak it with ease,

clarity and effortlessly. Hence, a quasi-experimental study was carried out with third year post- graduate medical students at the faculty of Medicine Abou Bakr Belkaid Tlemcen.

Basically, the research was set up to question the effectiveness of audio-visual instruction for medical English speaking purposes, i.e. the major axis question around which the research revolved was whether or not the use of audio -visual instruction helps medical students to develop their speaking skill. Yet, to examine this broad question thoroughly, it was imperative to break it down into the following research questions:

1. What do medical students need to learn to speak medical English in academic settings with ease and clarity?

2. Does the use of audio-visual materials along with meaningful teaching tasks help medical students to develop their speaking skill?

3. Is an audio-visual course more beneficial than a course based solely on chalkboard, texts, worksheets, flashcards and posters to develop medical students' speaking skill?

Taking those key research questions as the point of departure, the researcher put forth the following research hypotheses:

1. Medical students need to learn and to widen their knowledge of the different linguistic features of medical English mainly grammar, general and medical vocabulary, as well as correct pronunciation to speak medical English in academic settings with ease and clarity.

2. A wise and a judicious use of audio-visual materials along with well-structured speaking tasks may help students to develop their speaking skill significantly.

3. An audio-visual course is probably more beneficial and fruitful than a course based solely on chalkboard, texts, worksheets, flashcards and posters to develop medical students' speaking skill.

After delineating the boundaries of the research area and for the sake of ensuring a sound empirical study, the researcher was compelled to form two similar groups, equal in number and with approximately the same speaking level. This was a required prior condition for launching the experiment. Furthermore, both groups were taught by the researcher herself for a period of seven months and three weeks, using

the same medical English syllabus.The only difference lied in the materials used. In the experimental group, medical videos and medical power points were used in the instruction process, whereas in the control group they were replaced by the use of chalkboard, texts, worksheets, flashcards and posters.

This quasi-experimental study was discussed in detail, in four interrelated chapters. The core of chapter one was devoted to EAP literature review with a special focus on the vital role of English for medical purposes in medical spheres and the pedagogic precepts underpinning EAP course design.It also cast light on the merits of audio-visual instruction.This introductory chapter served as a theoretical basis, paving the way for the subsequent chapters.

In the second chapter, the researcher strived as much as possible to portray the teaching, learning landscape.This empirical chapter constituted the backbone of this quasi-experimental study. It traced the research scheme and mapped out the different data collection tools used during the three distinctive research phases ,i.e. before, during and after experimentation.The researcher used different instruments including: speaking tests, a speaking self-assessment checklist, a structured interview, a course evaluation questionnaire and the researcher‘s classroom observation diary with the aim of ensuring the issue of data credibility and thereby gathering compelling evidence to ascertain or refute the research hypotheses.

The third chapter was virtually analytical in nature. It was a mélange of quantitative and qualitative analyses of the collected data. Throughout this chapter, the researcher went back over the data gathered during the pre, while and post experimentation phases and presented a straightforward account of the research findings which was backed up with statistical calculations to make the research results plausible and more rigorous.

The last chapter was almost exclusively devoted to proposals and illustrations of an EAMP audio-visual speaking course. It started with enumerating the pedagogic benefits of audio-visual materials, it also provided recommendations about materials selection and use, it also put forth some key criteria to account for while devising

speaking tasks. The centrepiece of the chapter was a suggested EAMP speaking syllabus, with twelve medical thematically based units, geared towards raising the residents awareness of the complexities of Medical English language and aiming at developing their speaking skill.The chapter closed with a sample didactic unit and with some recommendations.

As aforementioned, to test the research hypotheses, the researcher relied upon a number of instruments which on their turn yielded interesting results. Starting with the first hypothesis, the results of the speaking self assessment checklist, in conjunction with those of the structured interview, the classroom observation diary and the speaking tests strongly confirmed medical students need to learn and to widen their knowledge of the different linguistic features of medical English to speak it with ease and clarity. Indeed, after learning medical English nearly for eight months, all the residents in both groups developed their knowledge of grammar, general and medical vocabulary, and their pronunciation became more intelligible.The regular speaking practice helped them overcame their irrational speaking fear of making mistakes and they became more willing to take risks to express and to defend their ideas.

As regards the second hypothesis, the results of the data compiled via the course evaluation questionnaire administered at the end of the experimental phase revealed the satisfaction of all the participants in both the experimental and control group. Such research findings prove that both teaching methods were successful from the point of view of the participants. In addition to that, the findings of the speaking checklist of the experimental group alongside the results of their post -speaking test ascertained this hypothesis.

As for the last hypothesis, the inter comparison between the results of the post speaking test of both the experimental and the control group showed that the experimental group which received audio - visual instruction outperformed the control group which was taught in the traditional way relying only on chalkboard, texts, worksheets, flashcards and posters. In addition to that, the statistical results of the t-test and the eta squared proved that the audio-visual course was more beneficial than the other traditional course.

Thus, this quasi-experimental study ended up by confirming the research hypotheses, hence asserting the pedagogic significance of audio-visual instruction for the development of the third year residents' speaking skill in academic medical settings. A point worthy of attention here, is that audio-visual instruction in an EAMP speaking course is not a panacea to all language ills. Nevertheless, the judicious selection and exploitation of authentic medical videos and PowerPoints coupled with carefully thought-out tasks may help the residents to notice, reflect and analyse how medical English is used and recall the language acquired with greater control and ease during speaking production or interaction with peers.

In the light of the foregoing findings, and considering the residents' pressing need for English and knowing the pitiful state of English at the faculty of medicine ,it is advisable that medical administrators launch similar elective audio-visual speaking EAMP courses at the heart of the faculty of medicine.Such a proposition is worthy of consideration and may be a viable and a worthwhile project of inestimable value for residents.

While the present research is too small in scope, the results are not generalisable. Thus, other researchers can expand the boundaries of the present classroom research and study larger classes. In fact, English for medical purposes is still a brand new in Algeria in general and in Tlemcen in particular. Yet, it is a promising fertile field of research for inquisitive and ambitious ESP researchers who wish to venture forth into the medical circles to identify possible language problems and to possibly bring out some solutions, serving thus the medical community first and subsequently the Algerian community.

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APPENDICES

APPENDIX "A"

SPEAKING SELF-ASSESSMENT CHECKLIST

FRENCH VERSION

PARTIE 1 **ANGLAIS GENERAL** **Nom : .....**

.....

	Prendre part à une conversation	**S'exprimer oralement en continu**
A 1	Je peux communiquer, de façon simple, à condition que l'interlocuteur soit disposé à répéter ou à reformuler ses phrases plus lentement et à m'aider à formuler ce que j'essaie de dire. Je peux poser des questions simples sur des sujets familiers ou sur ce dont j'ai immédiatement besoin, ainsi que répondre à de telles questions.	Je peux utiliser des expressions et des phrases simples pour décrire mon lieu d'habitation et les gens que je connais.
A 2	Je peux communiquer lors de tâches simples et habituelles ne demandant qu'un échange d'information simple et direct sur des sujets et des activités familiers. Je peux avoir des échanges très brefs même si, en règle générale, je ne comprends pas assez pour poursuivre une conversation.	Je peux utiliser une série de phrases ou d'expressions pour décrire en termes simples ma famille et d'autres gens, mes conditions de vie, ma formation et mon activité professionnelle actuelle ou récente.
B 1	Je peux faire face à la majorité des situations que l'on peut rencontrer au cours d'un voyage dans une région où la langue est parlée. Je peux prendre part sans préparation à une conversation sur des sujets familiers ou d'intérêt personnel ou qui concernent la vie quotidienne (par exemple famille, loisirs, travail, voyage et actualité).	Je peux articuler des expressions de manière simple afin de raconter des expériences et des événements, mes rêves, mes espoirs ou mes buts. Je peux brièvement donner les raisons et explications de mes opinions ou projets. Je peux raconter une histoire ou l'intrigue d'un livre ou d'un film et exprimer mes réactions.
B 2	Je peux communiquer avec un degré de spontanéité et d'aisance qui rende possible une interaction normale avec un locuteur natif. Je peux participer activement à une conversation dans des situations familières, présenter et défendre mes opinions	Je peux m'exprimer de façon claire et détaillée sur une grande gamme de sujets relatifs à mes centres d'intérêt. Je peux développer un point de vue sur un sujet d'actualité et expliquer les avantages et les inconvénients de différentes possibilités.
C 1	Je peux m'exprimer spontanément et couramment sans trop apparemment devoir chercher mes mots. Je peux utiliser la langue de manière souple et efficace pour des relations sociales ou professionnelles. Je peux exprimer mes idées et opinions avec précision et lier mes interventions à celles de mes interlocuteurs.	Je peux présenter des descriptions claires et détaillées de sujets complexes, en intégrant des thèmes qui leur sont liés, en développant certains points et en terminant mon intervention de façon appropriée.
C 2	Je peux participer sans effort à toute conversation ou discussion et je suis aussi très à l'aise avec les expressions idiomatiques et les tournures courantes. Je peux m'exprimer couramment et exprimer avec précision de fines nuances de sens. En cas de difficulté, je peux faire marche arrière pour y remédier avec assez d'habileté et pour qu'elle passe presque inaperçue	Je peux présenter une description ou une argumentation claire et fluide dans un style adapté au contexte, construire une présentation de façon logique et aider mon auditeur à remarquer et à se rappeler les points importants.

PARTIE 2 ANGLAIS MEDICAL

- Pouvez- vous évaluer ce que vous êtes capable de faire en choisissant une note de : **1à5**

1-très bien 2-assez bien 3-mal 4-très mal 5-impossible

Compétence Orale	1	2	3	4	5
1-je peux m'exprimer en utilisant le vocabulaire médical de base					
2-je peux décrire le corps humain de l'extérieur					
3-je peux décrire le corps humain de l'intérieur (je peux décrire les différents organes et leurs fonctions)					
4- je peux décrire des symptômes, des maladies, des douleurs					
5- je peux parler des différents traitements de maladies					
6- je peux expliquer des procédures médicales et discuter les cas de mes patients					
7-Je peux faire un résumé oral					
8- Je peux faire un exposé oral ou une présentation académique sur un thème médical devant un auditoire					
9- Je peux présenter mes idées et les défendre					
10- Je peux faire face aux interruptions et aux questions					
11-je peux expliquer et faire des commentaires sur des graphes					
12-je peux parler de ma spécialité et de mes recherches					
13-Je peux présenter une description ou une argumentation claire et fluide dans un style adapté au contexte, construire une présentation de façon logique et aider mon auditeur à remarquer et à se rappeler les points importants					
14- je peux participer sans effort à toute conversation ou discussion, Je peux m'exprimer couramment et exprimer avec précision. En cas de difficulté, je peux faire marche arrière pour y remédier avec assez d'habileté et pour qu'elle passe presque inaperçue.					

APPENDIX "B"

SPEAKING SELF-ASSESSMENT CHECKLIST

ENGLISH VERSION

PART 1 GENERAL ENGLISH

Speaking Skill / Level	Spoken Interaction	Spoken Production
A 1	I can interact in a simple way provided the other person is prepared to repeat or rephrase things at a slower rate of speech and help me formulate what I'm trying to say. I can ask and answer simple questions in areas of immediate need or on very familiar topics. ☐	I can use simple phrases and sentences to describe where I live and people I know. ☐
A 2	I can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar topics and activities. I can handle very short social exchanges, even though I can't usually understand enough to keep the conversation going myself. ☐	I can use a series of phrases and sentences to describe in simple terms my family and other people, living conditions, my educational background and my present or most recent job. ☐
B 1	I can deal with most situations likely to arise whilst travelling in an area where the language is spoken. I can enter unprepared into conversation on topics that are familiar, of personal interest or pertinent to everyday life (e.g. family, hobbies, work, travel and current events). ☐	I can connect phrases in a simple way in order to describe experiences and events, my dreams, hopes and ambitions. I can briefly give reasons and explanations for opinions and plans. I can narrate a story or relate the plot of a book or film and describe my reactions. ☐
B 2	I can interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible. I can take an active part in discussion in familiar contexts, accounting for and sustaining my views. ☐	. I can present clear, detailed descriptions on a wide range of subjects related to my field of interest. I can explain a viewpoint on a topical issue giving the advantages and disadvantages of various options ☐
C 1	I can express myself fluently and spontaneously without much obvious searching for expressions. I can use language flexibly and effectively for social and professional purposes. I can formulate ideas and opinions with precision and relate my contribution skilfully to those of other speakers. ☐	. I can present clear, detailed descriptions of complex subjects integrating sub-themes, developing particular points and rounding off with an appropriate conclusion ☐
C 2	I can take part effortlessly in any conversation or discussion and have a good familiarity with idiomatic expressions and colloquialisms. I can express myself fluently and convey finer shades of meaning precisely. If I do have a problem I can backtrack and restructure around the difficulty so smoothly that other people are hardly aware of it. ☐	I can present a clear, smoothly-flowing description or argument in a style appropriate to the context and with an effective logical structure which helps the recipient to notice and remember significant points. ☐

PART 2 MEDICAL ENGLISH

- Can you evaluate what you are able to do. Choose a note from 1to 5

1-fairly good 2- quite good 3-bad 4- awful 5- impossible

Speaking Competence	1	2	3	4	5
1-I can express myself using basic medical vocabulary					
2-I can describe the human body from the outside					
3-I can describe the human body from the inside (I can describe the different internal organs and their functions)					
4-I can describe symptoms ,diseases and pains					
5-I can speak about the different treatments of medical conditions					
6-I can explain medical procedures and discuss the cases of my patients					
7-I can make an oral summary					
8- I can present a research work orally or make an academic presentation about a medical topic in front of an audience					
9- I can present and defend my ideas					
10- I can face interruptions and questions.					
11- I can explain and comments on graphs					
12-I can speak about my speciality and my researches					
13- I can present a clear and fluid description or arguments in a style adapted to the context, I can organise a presentation in a logical manner and help my listener to notice and remember the important points.					
14- I can participate effortlessly to any discussion, I can express myself fluently and precisely. In case of difficulties, I can go back to the point and skillfully rephrase without being noticed.					

STRUCTURED INTERVIEW

Interview

Cher étudiant,

Pour élaborer des cours d'anglais médical qui vous aident à parler l'anglais médical avec confiance et clarté, il est important de connaitre votre niveau actuel, vos difficultés, vos besoins et même vos propositions. Cet interview vise essentiellement à déterminer d'abord ce que vous êtes capable de faire et ce que vous voulez atteindre à la fin de cette formation.

Partie A	**Le profil de**

1. Quel est votre spécialité ?
2. Pendant combien d'années avez-vous étudié l'anglais ?
3. Depuis quand vous n'avez pas pratiqué l'anglais après le lycée ?
4. Quel est votre niveau d'anglais :
   - ☐ Débutant
   - ☐ Moyen
   - ☐ Avancé
5. Avez-vous suivi des cours d'anglais pour améliorer votre niveau ?
   - ☐ Oui
   - ☐ Non

   Si oui ? Pensez-vous que ces cours d'anglais étaient bénéfiques ?

6. Avez -vous eu recours à d'autres moyens pour remédier à vos manques en anglais ?

Partie B	**Attitudes vis-à-vis l'anglais**

7. Pensez-vous que l'anglais parlé est nécessaire pour votre carrière professionnelle?
   - ☐ Peu, important
   - ☐ Important
   - ☐ Très important

   Veuillez justifier votre réponse, SVP ?

8. Etes –vous motivé à parler en anglais ?
   - ☐ Oui
   - ☐ Non

   Veuillez justifier votre réponse ,SVP ?

Rubric A	**Student's Profile**

1. What is your speciality ?
2. How long have you studied English ?
3. How long have you stopped practising English after the secondary school ?
4. What is your Level of English :
   - ☐ Beginner
   - ☐ Intermediate
   - ☐ Advanced
5. Have you ever taken any courses of English to improve your level ?
   - ☐ Yes
   - ☐ No

   If yes ? Do you think the lessons were helpful for you ?

6. Do you have recourse to other means to meet your needs and cater for your lacks in English ?

Rubric B	**Attitudes to Speaking**

7. Do you think that speaking English is necessary for your professional career?
   - ☐ So, important
   - ☐ Important
   - ☐ Not important

   Would you please justify your answer ?

8. Are you motivated to speak English ?
   - ☐ Yes
   - ☐ No

   Would you please justify your answer ?

Partie C	Difficultés

9. Avez-vous peur de faire des erreurs en parlant anglais ?
   - ☐ Pas du tout
   - ☐ Oui, un peu
   - ☐ Oui, beaucoup

10. Lorsque vous voulez parler, en quelle langue vous pensez ?
   - ☐ En arabe
   - ☐ En français
   - ☐ En anglais

11. En parlant anglais, qu'est ce qui vous parait le plus difficile ?

   - ☐ La pronunciation
   - ☐ Le vocabulaire général
   - ☐ Le vocabulaire médical
   - ☐ La structure des phrases
   - ☐ L'expression du sens
   - ☐ L'organisation des idées

D'autres difficultés, SVP Précisez.

12. A votre avis les difficultés que vous avez rencontré durant le test oral sont due à quoi ?

Partie D	Attitudes vis-à-vis l'utilisation du materiel audio-visuel

13. Que pensez-vous de l'utilisation du power point comme support pédagogique pour l'apprentissage de l'anglais ?

14. Que pensez-vous de l'utilisation de la vidéo comme support pédagogique pour l'apprentissage de l'anglais ?

15. Quel est le support qui vous convient le mieux ?
   - ☐ La vidéo
   - ☐ Le power point
   - ☐ La vidéo et le power point

Rubric C	Speaking Difficulties

9. Are you afraid of making mistakes when speaking ?
   - ☐ Not at all
   - ☐ Yes ,a little
   - ☐ Yes,very much

10. When you want to speak , which language you think in for your ideas .
   - ☐ Arabic
   - ☐ French
   - ☐ English

11. What do you find most difficult when speaking English ?

   - ☐ Pronunciation
   - ☐ General vocabulary
   - ☐ Medical vocabulary
   - ☐ Sentence structure
   - ☐ Expression of meaning
   - ☐ Organisation of ideas

Other please, Specify.

12. In your opinion, what are the causes of your speaking difficulties in the speaking test ?

Rubric D	Attitudes to audio-visual materials

13. What do you think of the use of the power Point as a teaching tool ?

14. What do you think of the use of the video as a teaching tool ?

15. Which teaching material do you prefer or suits you best ?
   - ☐ Video
   - ☐ Power point
   - ☐ Video and Power point

Partie E	Besoins

16. Avez-vous besoin de la traduction pour mieux comprendre le cours d'anglais ?
    - ☐ Oui
    - ☐ Non

    Veuillez justifier votre réponse, SVP ?

17. Quel sont vos besoins ? Et en quoi avez-vous besoin de plus de pratique :
    - ☐ La prononciation
    - ☐ Le vocabulaire général
    - ☐ Le vocabulaire médical
    - ☐ La grammaire
    - ☐ Conversation sur des sujets médicaux
    - ☐ La traduction

18. Que désirez vous atteindre à la fin de ces cours d'anglais médical ?

Partie F	Suggestions

19. Quel sont les thèmes médicaux que vous voulez aborder en class ?

20. Avez-vous d'autres propositions à faire, concernant les activités de classes ou le contenu des cours ?
    Si oui ? Quelles sont vos propositions ?

Rubric E	Needs

16. Do you feel you need translation to better understand the English lesson ?
    - ☐ Yes
    - ☐ No

    Would you justify .Please ?

17. What are your necessities ?And where do you need more practice :
    - ☐ Pronunciation
    - ☐ General vocabulary
    - ☐ Medical vocabulary
    - ☐ Grammar
    - ☐ Conversation about medical topics
    - ☐ Translation

18. What are your expectations and what do you want to achieve at the end of this medical English course?

Rubric F	Suggestions

19. What medical topics would you like to include in the medical syllabus ?

20. Do you have any suggestions ? Concerning clasroom tasks or lesson content ?
    If yes,what are they ?

PRE-SPEAKING TEST

Pre- Speaking Test

1-Read aloud/ Text 1

Modern Surgery

In 1967,Doctor Christian Bernard transplanted a heart for the first time .He took a healthy heart from the body of a girl and put it into a man's body .The girl had died in a car accident.The man with the new heart lived for only 18 days.But his lungs not his heart killed him .

Doctors can now transplant kidneys,livers and lungs. In 1954,the first kidney transplant was made . Now ,doctors can also make new parts for bodies . If a person burns his skin ,they can give him some new healthy skin ,they can give new blood, they can use plastic or metal for arm and leg bones.They can make new noses, ears,and eyes.Surgeons can make plastic hands,these hands are like real hands : they are the same colour and they have finger prints and hair.

http://www.onefd.edu.dz/

1-Read aloud/ Text 2

The Spread of Infection

Virtually all bodily materials can carry bacteria and /or viruses from one person to another .Limiting contact with such materials can reduce the chance that an infection can be transmitted between caregivers and patients.This is particularly crucial when intravenous medications and fluids are administered at home.Bodily materials with which to avoid contact include : blood,fecal material, mucus, pus from wounds, salivia,semen,sputum,urine,vaginal secretions and vomit.

The risk of infection is a two – way street.These materials can transmit an infection from the patient to the caregiver – or from the caregiver to the patient.The best precautions against the spread of infection are « cleanliness and coverage».

L' anglais médical à la faculté p97

2 - Read the text silently. Then summarizes it orally.-

Antibiotics are strong medications that fight infections in the body.There are many classes of antibiotics and they have different effects on bacteria.Some antibiotics weaken cell walls .Some antibiotics block protein synthesis or DNA synthesis.Antibiotics can kill bacteria (bactercidal) or they can stop them from replicating or growing (bacteriostatic).
Each antibiotic has specific characteristics and they don't work against all types of bacteria.
It is important that patients know several things about antibiotics :

- Antibiotics don't work against vral infections such as colds and the flu.
- Antibiotics don't work against sore throats and coughs.
- It is important to finish all of the medication even if you feel better.

If a patient doesn't finish the prescription, it could be dangerous.Patients usually feel better after 2-3 days.However , the bacteria might not be completely gone.If a patient stops taking their medication , the bacteria may grow , causing the patient to become sick again.Also, the bacteria might become resistant to the antibiotic making it more difficult to fight.

Problems can occur with antibioticds.If the patient notices a rash , swelling, or any other allergic reaction , they should stop taking the medication and contact their physician immediately .Also, if the patient has problems with nausea or vomiting , they should stop the medication and contact their physician .Amore tolerable alternative might be available.

http://www.hospitalenglish.com/talkingaboutmeds/tam_antibiotics.php

3- Problem Solving

- **Identify the following medical problem and suggest a solution.**

Hello everyone.
I am always tired. I get a good nights sleep but all day i'm still tired. I've started eating more fruit and vegetables to try and help but i'm just sooo tired all the time - can anyone out there help me with this? Thanks.

http://forum.sofeminine.co.uk/forum/fitness3/__f10_fitness3-I-m-soooo-tired-all-the-time.html

4- Answer the following questions

A/ General questions

- Introduce yourself
- Why did you opt for this discipline(Medicine) ?
- What qualities make a good doctor / surgeon ?
- What speciality do you like most ? Why ?

B/A theme based discussion / a guided discussion

- What effects does nicotine have on the body ?What are the health risks of smoking?
- Can tobacco affect non smokers ?How?
- How to quit smoking ?
- What are the withdrawal symptoms of smoking ?How long they usually last ?

5- Describe the pictures

- What does each picture show ? And how does it relate to scoliosis ?

Scoliosis


2


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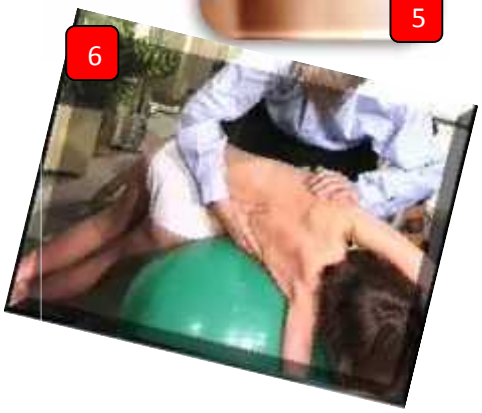
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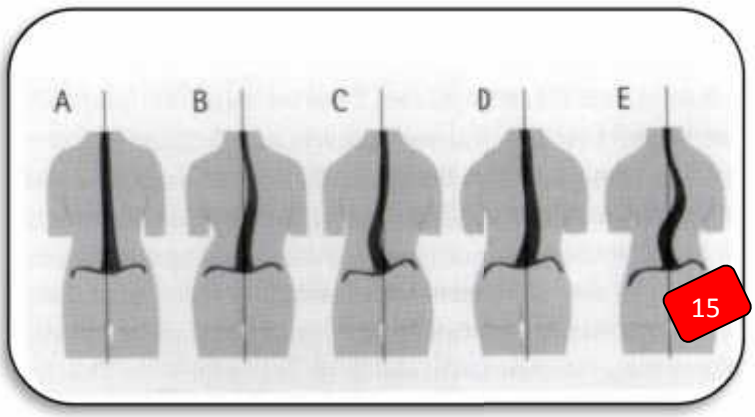

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POST-SPEAKING TEST

Post- Speaking Test

1-Read aloud

Duodenal Ulcer : Clinical Features

Epigastric pain is by far the most frequent symptom of duodenal ulcer. The pain is often described as sharp, burning or gnawing. Alternatvely, the pain may be ill-defined, boring or aching, or may be perceived as abdominal pressure or fullness, or as a hunger sensation. In approximately 10 % of patients the pain is located to the right of the epigastrum.The pain of duodenal ulcer characteristically occurs from 90 min to 3 h after eating. It frequently awakens the patient at night. Pain on awakening before breakfast is sufficiently rare in patients with duodenal ulcer as to challenge the diagnosis.The pain is usually relieved within a few minutes by food or antacids. Symptoms tend to be recurrent and episodic. The severity of pain varies widely from patient to patient. Duodenal ulcers often recur in the absence of pain .Episodes of pain may persist for periods of several days to weeks or months.Periods of remission usually last from weeks to years and are almost always longer than episodes of pain . In some patients the disease is more aggressive, with frequent and persistent symptoms and /or development of complications. Pain relief with antacids or food is believed to be the result of acid neutralisation. Ingestion of food leads to transient partial neutralisation of gastric acid, which is followed by gastric release and resultant secretion of acid secretion .

With subsequent gastric emptying and increasing acid secretion, a sufficiently low PH is achieved in the stomach and first portion of the duodenum that pain results. Acid-induced pain in patients with duodenal ulcer is believed to be due to acid stimulation of chemical receptors and/or alterations in gastric motility.

L’ anglais médical à la faculté p182

2-Read the text silently.Then summarizes it orally.

Diabetic retinal complications, including macular edema (DME) and proliferative diabetic retinopathy (PDR), are the leading cause of new cases of blindness among adults aged 20–74. Chronic hyperglycemia, considered the underlying cause of diabetic retinopathy, is thought to act first through violation of the pericyte-endothelial coupling. Disruption of microvascular integrity leads to pathologic consequences including hypoxia-induced imbalance in vascular endothelial growth factor (VEGF) signaling. Several anti-VEGF medications are in clinical trials for use in arresting retinal angiogenesis arising from DME and PDR. Although a review of current clinical trials shows promising results, the lack of large prospective studies, head-to-head therapeutic comparisons, and potential long-term and systemic adverse events give cause for optimistic caution. Alternative therapies including targeting pathogenic specific angiogenesis and mural-cell-based therapeutics may offer innovative solutions for currently intractable clinical problems. This paper describes the mechanisms behind diabetic retinal complications, current research supporting anti-VEGF medications, and future therapeutic directions.

Journal of Ophthalmology
Volume 2012

3- Problem Solving

- **Identify the medical problem in the following clinical case and suggest a solution.**

A33-year-old man presented to his GP complaining of a painless lump on the right side of his neck, which had been present for about two months and was enlarging. He had been feeling generally unwell and had lost about 5kg in weight. He was also complaining of night sweats.He had no significant medical history.

Professional English in Use Medicine .p64

4-Answer the following questions

A/ General questions

- Do you like day or night shift better ?Why?
- Could you briefly describe your department, the medical staff working with you, the medical services you provide and possibly the number of patients?
- Do you have the spirit of team in your department?
- What are your future medical projects?

B/ A theme based discussion / a guided discussion

- What are the main risk factors of birth defects?
- What are the physical and mental features of trisomic children?
- Can gynecologists identify trisomy 21 during prenatal screening?
- Do Parents who have a child with Down syndrome have an increased risk of having another child with Down syndrome in future pregnancies?
- Are trisomic individuals at increased risk for certain medical conditions ?

5-Describe the pictures

- **What does each picture show ?**
- **And how does it relate to breast cancer ?**

Breast Cancer

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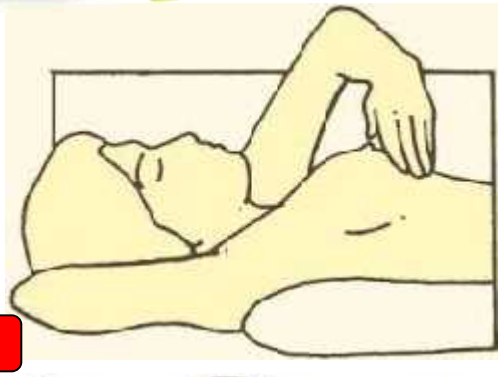

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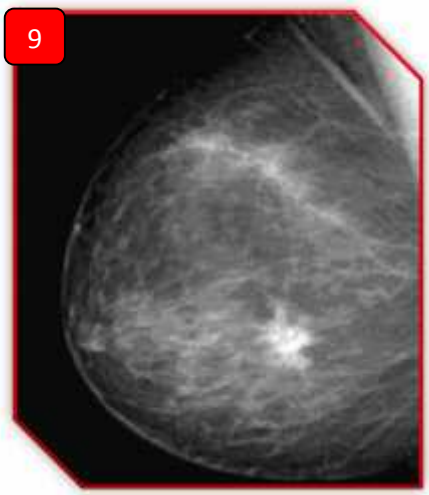

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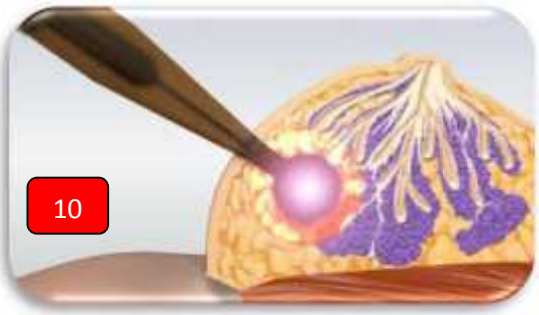

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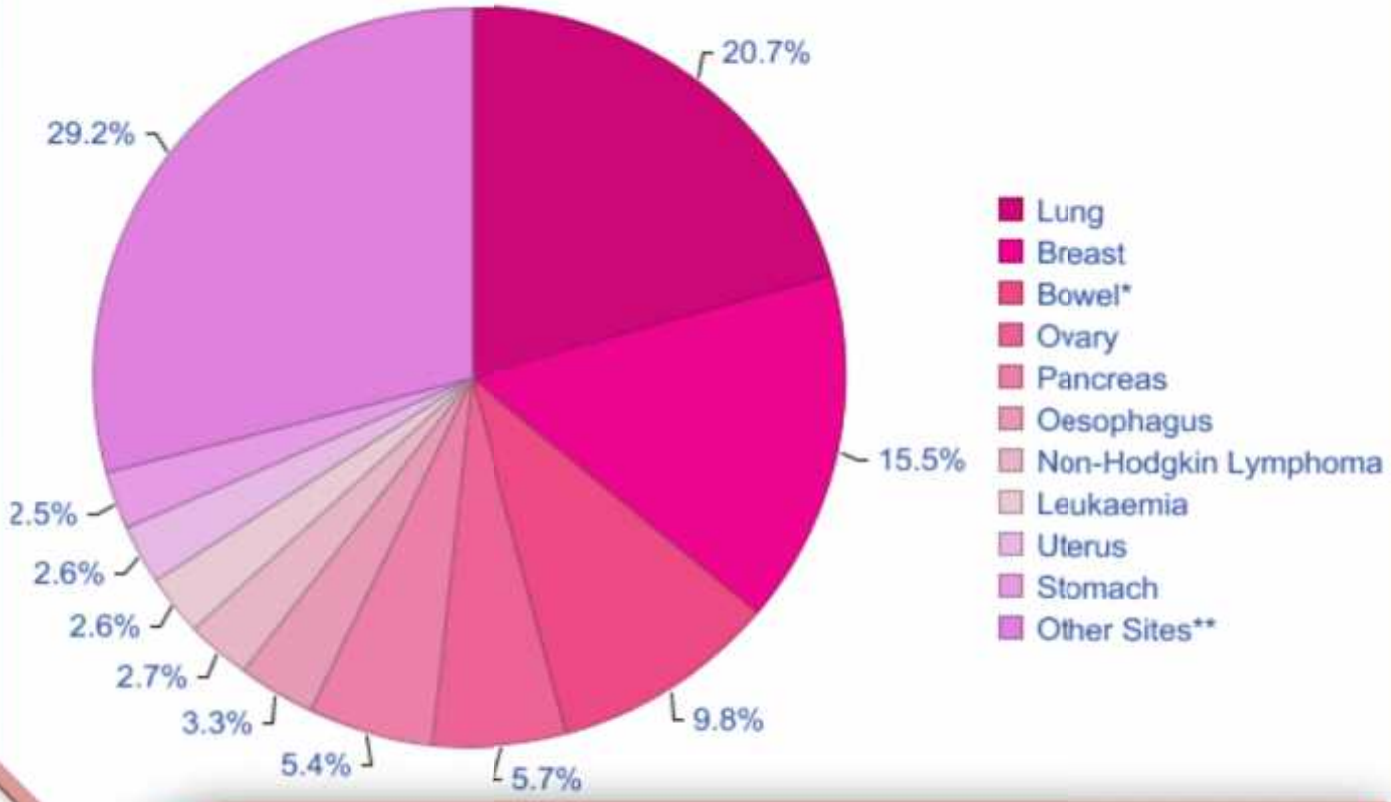
The 10 Most Common Causes of Cancer Death in Females, Percentages of All Cancer Deaths (C00-C97), UK, 2010



Cases of Breast Cancer Related to Age at Diagnosis

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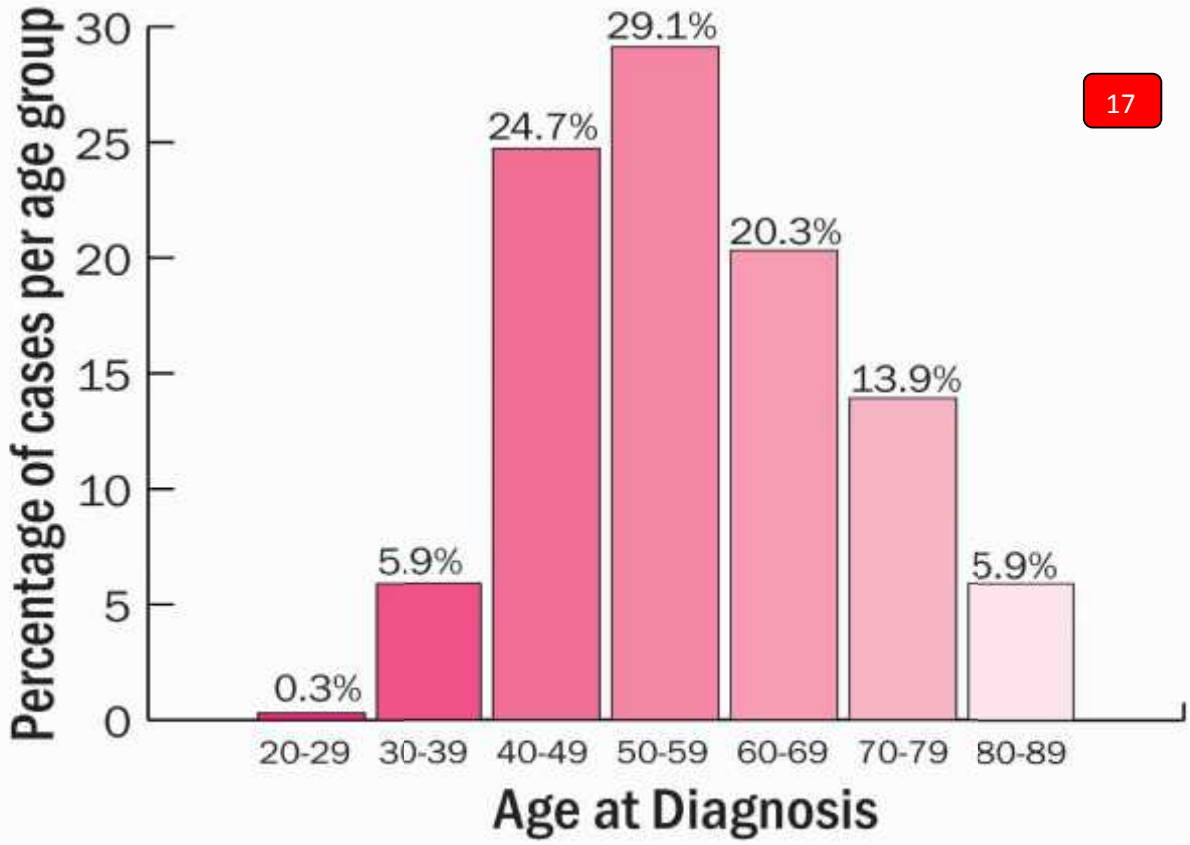

CLASSROOM OBSERVATION DIARY

Sample of Observation Sheets

Teacher's diary Experimental Group

Speakibg difficulties	Date:…… 2012
 **Pronunciation** **Grammar** **General vocabulary** **Medical vocabulary** **Others**	…… …… …… …… …… …… …… …… …… …… …… …… …… ……
Attitudes + response to classroom tasks 	…… …… …… …… ……
Material efficacy 	…… …… …… ……
Time management 	…… …… …… ……

Teacher's diary Control Group

Speakibg difficulties	Date:…… 2012
 **Pronunciation** **Grammar** **General vocabulary** **Medical vocabulary** **Others**	…… …… …… …… …… …… …… …… …… …… …… …… …… ……
Attitudes + response to classroom tasks 	…… …… …… …… ……
Material efficacy 	…… …… …… ……
Time management 	…… …… …… ……

COURSE EVALUATION QUESTIONNAIRE

Questionnaire D'Evaluation Des Cours De L'Anglais Médical

Cher Etudiant,votre avis nous intéresse.

En donnant votre appréciation sur les cours de l'anglais médical, vous nous aidez à améliorer le contenu et la qualité des cours et de l'enseignement. Pour cela, veuillez prendre quelques minutes pour remplir la grille d'évaluation en choisissant une note de 1 à 5 qui correspond à votre opinion personnelle et qui selon vous, décrit le mieux la réalité.

1- Extrêmement utile 2- Utile 3- De certaine valeur 4- De peu de valeur 5 Sans aucune valeur

Nous vous prions aussi de répondre aux questions qui figurent après la grille d'évaluation.

Contenu du programme	**1**	**2**	**3**	**4**	**5**
Thèmes abordés					
Activités d'expression orale					
Faire des résumés oralement jeux de rôles Discussions guidées par le professeur Discussions et débats Les jeux Mini - présentations orales					
Sous-Compétences Linguistiques Orales					
Pratique de la prononciation Pratique de la grammaire Pratique du vocabulaire général Pratique du vocabulaire medical					
Modalité de travail en classe					
Travail individuel Travail en binôme Travail de groupe Rravail de toute la classe					
Supports Pédagogiques					
Polycopies Video Power Point					

Course Content	**1**	**2**	**3**	**4**	**5**
Topics covered					
Classroom Speaking Task					
Summarizing orally Role plays Teacher's guided discussions Free Discussions and debates Games Mini -oral presentations					
Speaking sub- skills					
pronunciation practice grammar practice general vocabulary practice medical vocabulary practice					
Patterns of Interaction and Class Work					
Individual Work Pair Work Group Work Whole Class Work					
Teaching Materials					
Worksheets Video Power Point					

Questions in French	Questions in English
1) Que pensez vous de l'organisation du programme de l'anglais médical? .... 2) Que pensez vous de la gestion du temps en classe? .... 3) Ce cours a-t-il répondu à vos attentes? .... 4) Recommanderiez-vous à des collègues de suivre ce cours ? .... 5) Qu'avez-vous le plus apprécié dans le cours? .... 6) Indiquez les points négatifs de ce cours à vos yeux ? .... 7) Quels sont les éléments que vous souhaiteriez voir conservés ou changés dans ce cours?	1) What do you think of the organization of the syllabus? .... 2) What do you think of classroom time management? .... 3) Was the course at the level of your expectations ? .... 4) Would you suggest this course to your colleagues? .... 5) Which aspects of this course did you like best? .... 6) What are the negative aspects of this course? .... 7) Which aspects would you like to keep or to change in this course?

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8) Quels sont vos commentaries concernant la qualité d'enseignement et quelles sont vos suggestions?

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8) What are your comments on the quality of instruction in this course and what are your suggestions?

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Merci pour votre précieuse collaboration.

EVALUATION CRITERIA
FOR THE PRE AND POST SPEAKING TEST

Evaluation Criteria for the Pre and Post Speaking Tests

PRONUNCIATION	**8 points**
▪ Good pronunciation ▪ Occasional mispronunciations ▪ Very few mispronunciations ▪ Poor and unintelligible pronunciation with striking mistakes (non-English sounds)	7,5- 08 04-07 02-04 00-02
FLUENCY	**8 points**
▪ Natural sounding, with no unnecessary pauses ▪ Speech flows smoothly but with communication breakdowns from time to time.(occasional pausing) ▪ Slow speech with halting, fragmented, unnatural pauses (frequent pausing) ▪ Pausing too often and too long (excessive pausing)	7,5- 08 04-07 02-04 00-02
GRAMMAR	**8 points**
▪ Excellent control of grammar; very few errors ▪ General good control of grammar; but some errors could be avoided ▪ Uncertain control of grammar; some serious errors should be avoided ▪ No control or no knowledge of grammar	7,5- 08 04-07 02-04 00-02
GENERAL VOCABULARY	**8 points**
▪ Broad, precise, impressive vocabulary ▪ Effective word choice, Adequate for the situation ▪ Barely adequate for the situation and level, repetitive ▪ Inadequate,inaccurate.	7,5- 08 04-07 02-04 00-02
MEDICAL VOCABULARY	**8 points**
▪ Broad, precise, impressive vocabulary ▪ Effective word choice, adequate for the situation ▪ Barely adequate for the situation and level, repetitive ▪ Inadequate,inaccurate	7,5- 08 04-07 02-04 00-02
INFORMATION PROVIDED	**6points**
▪ Accurate information with adequate details , ideas very well developed ▪ Only basic information is provided; ideas fairly well developed ▪ Little information is provided; ideas not well developed ▪ Ideas not well stated and not connected.	5,5- 06 04-05 02-03 00-01

PRE - SPEAKING TEST RESULTS

(Control Group & Experimental Group)

Pre-Speaking Test Results

		Speaking test sub – components						Speaking test	
		Grammar /32	General Vocabulary /32	Medical vocabulary /32	Fluency /40	Pronunciation /40	Information provided /24	/200	/20
MEDICAL STUDENTS	S1	1,5	1,5	0	0,5	1	0,5	5	0,5
	S2	6	5	0	1,5	2	0,5	15	1,5
	S3	4,5	7,5	0	1,5	6	0,5	20	2
	S4	11	13	0	4	6,5	0,5	35	3,5
	S5	11,5	11,5	0	4	7,5	0,5	35	3,5
	S6	12,5	10,5	0	4	7	1	40	4
	S7	12	13	0	8	10,5	1,5	45	4,5
	S8	11,5	11	0	10	15,5	7	55	5,5
	S9	13,5	15,5	0	10,5	15,5	10	65	6,5
	S10	17	17,5	0	16,5	17,5	11,5	80	8
	S11	21	23,5	0	17,5	20	13	95	9,5
	S12	22,5	22,5	0,5	20	26	13,5	105	10,5

Control Group: Pre –Speaking Test Scores

		Speaking test sub – components						Speaking test	
		Grammar /32	General Vocabulary /32	Medical vocabulary /32	Fluency /40	Pronunciation /40	Information provided /24	/200	/20
MEDICAL STUDENTS	S1	1,5	1	0	0,5	1	1	5	0,5
	S2	7	9	0	2	6,5	0,5	25	2,5
	S3	7,5	10	0	1,5	5	1	25	2,5
	S4	10	11,5	0	5,5	6,5	1,5	35	3,5
	S5	11,5	11,5	0	5	6,5	0,5	35	3,5
	S6	10	13	0	4	7	1	35	3,5
	S7	11	12,5	0	9,5	10	2	45	4,5
	S8	12	11	0	10	15	2	50	5
	S9	13,5	14,5	0	10,5	17	10	65	6,5
	S10	14	14,5	0	14	17,5	10	70	7
	S11	22	24,5	0	16,5	22,5	14,5	100	10
	S12	22,5	25,5	1,5	21,5	23	11	105	10,5

Experimental Group : Pre –Speaking Test Scores

Post - Speaking Test Results

		Speaking test sub – components						Speaking test	
		Grammar /32	General Vocabulary /32	Medical vocabulary /32	Fluency /40	Pronunciation /40	Information provided /24	/200	/20
MEDICAL STUDENTS	S1	10	11	13	5,5	12,5	8	60	6
	S2	15,5	16,5	18	9	18	8	85	8,5
	S3	16	16	18	18	19	8	95	9,5
	S4	18	15	19,5	15	19,5	8	95	9,5
	S5	19,5	16	19,5	20	20	10	105	10,5
	S6	16,5	16,5	17	10	17	8	85	8,5
	S7	14,5	14,5	19	19	18	10	95	9,5
	S8	17,5	16,5	19	19	21	10	105	10,5
	S9	24	20	22	20	20,5	8,5	115	11,5
	S10	23	20	24	19	20	9	115	11,5
	S11	25	25	24	20	26	10	130	13
	S12	24,5	25	20	24	30	16,5	140	14

Control Group: Post –Speaking Test Scores

		Speaking test sub – components						Speaking test	
		Grammar /32	General Vocabulary /32	Medical vocabulary /32	Fluency /40	Pronunciation /40	Information provided /24	/200	/20
MEDICAL STUDENTS	S1	16	17	17	9	18	8	85	8,5
	S2	21	21,5	24	19	20	9,5	115	11,5
	S3	17	16	18	19	20	10	100	10
	S4	22	20	25	19,5	28,5	10	125	12,5
	S5	20,5	20	21,5	20	20	8	110	11
	S6	21	20	22	20	27	10	120	12
	S7	23	16	24	19	26	12	120	12
	S8	22	24	28	20	35	11	140	14
	S9	24	24	27,5	20	32	12,5	140	14
	S10	26	24	24	20	26	10	130	13
	S11	30	27	30	22	34	17	160	16
	S12	24	28	21	24	31	12	140	14

Experimental Group : Post –Speaking Test Scores

CALCULATING "SD"
THE STANDARD DEVIATION

Calculating the SD before and after the Experimentation

Control Group

N⁰ of Students	Pre -Speaking Test Score	(S-M)	(S-M)²
S1	0,5	-4,46	19,8916
S2	1,5	-3,46	11,9716
S3	2	-2,96	8,7616
S4	3,5	-1,46	2,1316
S5	3,5	-1,46	2,1316
S6	4	-0,96	0,9216
S7	4,5	-0,46	0,2116
S8	5,5	0,54	0,2916
S9	6,5	1,54	2,3716
S10	8	3,04	9,2416
S11	9,5	4,54	20,6116
S12	10,5	5,54	30,6916
		Total A =	109,2292

Experimental Group

N⁰ of Students	Pre -Speaking Test Score	(S-M)	(S-M)²
S1	0,5	-4,46	19,8767361
S2	2,5	-2,46	6,04340278
S3	2,5	-2,46	6,04340278
S4	3,5	-1,46	2,12673611
S5	3,5	-1,46	2,12673611
S6	3,5	-1,46	2,12673611
S7	4,5	-0,46	0,21006944
S8	5	0,04	0,00173611
S9	6,5	1,54	2,37673611
S10	7	2,04	4,16840278
S11	10	5,04	25,4184028
S12	10,5	5,54	30,7100694
		Total B =	101,229167

$$SD_1 = \sqrt{\frac{A}{1}} = \sqrt{\frac{1\ ,2}{1}} = 3{,}016$$

$$SD_2 = \sqrt{\frac{B}{1}} = \sqrt{\frac{1\ ,2}{1}} = 2{,}904$$

Control Group

N⁰ of Students	Post -Speaking Test Score	(S-M)	(S-M)²
S1	6	-4,21	17,7100694
S2	8,5	-1,71	2,91840278
S3	9,5	-0,71	0,50173611
S4	9,5	-0,71	0,50173611
S5	10,5	0,29	0,08506944
S6	8,5	-1,71	2,91840278
S7	9,5	-0,71	0,50173611
S8	10,5	0,29	0,08506944
S9	11,5	1,29	1,66840278
S10	11,5	1,29	1,66840278
S11	13	2,79	7,79340278
S12	14	3,79	14,3767361
		Total A =	50,7291667

Experimental Group

N⁰ of Students	Post -Speaking Test Score	(S-M)	(S-M)²
S1	8,5	-3,875	15,015625
S2	11,5	-0,875	0,765625
S3	10	-2,375	5,640625
S4	12,5	0,125	0,015625
S5	11	-1,375	1,890625
S6	12	-0,375	0,140625
S7	12	-0,375	0,140625
S8	14	1,625	2,640625
S9	14	1,625	2,640625
S10	13	0,625	0,390625
S11	16	3,625	13,140625
S12	14	1,625	2,640625
		Total B =	45,0625

$$SD_1 = \sqrt{\frac{A}{1}} = \sqrt{\frac{50{,}729}{1}} = 2{,}056$$

$$SD_2 = \sqrt{\frac{B}{1}} = \sqrt{\frac{4\ ,0}{1}} = 1{,}937$$

TABLE OF CRITICAL VALUES T-TEST

Table of Critical Values of T-Test

- **One Tailed Significance level**

	0.1	0.05	0.025	0.00	0.002	0.000	0.00025	0.00005
df:								
2	1.89	2.92	4.3	9.9	14.0	31.	44.7	100.14
3	1.64	2.35	3.18	5.8	7.4	12.9	16.33	28.01
4	1.53	2.13	2.78	4.	5.	8.6	10.31	15.53
5	1.48	2.02	2.57	4.0	4.7	6.8	7.98	11.18
6	1.44	1.94	2.45	3.7	4.3	5.9	6.79	9.08
7	1.41	1.89	2.36	3.	4.0	5.4	6.08	7.89
8	1.4	1.86	2.31	3.3	3.8	5.0	5.62	7.12
9	1.38	1.83	2.26	3.2	3.6	4.7	5.29	6.59
10	1.37	1.81	2.23	3.1	3.5	4.5	5.05	6.21
11	1.36	1.8	2.2	3.1	3.	4.4	4.86	5.92
12	1.36	1.78	2.18	3.0	3.4	4.3	4.72	5.7
13	1.35	1.77	2.16	3.0	3.3	4.2	4.6	5.51
14	1.35	1.76	2.14	2.9	3.3	4.1	4.5	5.36
15	1.34	1.75	2.13	2.9	3.2	4.0	4.42	5.24
16	1.34	1.75	2.12	2.9	3.2	4.0	4.35	5.13
17	1.33	1.74	2.11	2.	3.2	3.9	4.29	5.04
18	1.33	1.73	2.1	2.8	3.	3.9	4.23	4.97
19	1.33	1.73	2.09	2.8	3.1	3.8	4.19	4.9
20	1.33	1.72	2.09	2.8	3.1	3.8	4.15	4.84
21	1.32	1.72	2.08	2.8	3.1	3.8	4.11	4.78
22	1.32	1.72	2.07	2.8	3.1	3.7	4.08	4.74
23	1.32	1.71	2.07	2.8	3.	3.7	4.05	4.69
24	1.32	1.71	2.06	2.	3.0	3.7	4.02	4.65
25	1.32	1.71	2.06	2.7	3.0	3.7	4	4.62
26	1.31	1.71	2.06	2.7	3.0	3.7	3.97	4.59
27	1.31	1.7	2.05	2.7	3.0	3.6	3.95	4.56
28	1.31	1.7	2.05	2.7	3.0	3.6	3.93	4.53
29	1.31	1.7	2.05	2.7	3.0	3.6	3.92	4.51
30	1.31	1.7	2.04	2.7	3.0	3.6	3.9	4.48
35	1.31	1.69	2.03	2.7	3	3.5	3.84	4.39
40	1.3	1.68	2.02	2.	2.9	3.5	3.79	4.32
45	1.3	1.68	2.01	2.6	2.9	3.5	3.75	4.27
50	1.3	1.68	2.01	2.6	2.9	3.	3.72	4.23
55	1.3	1.67	2	2.6	2.9	3.4	3.7	4.2
60	1.3	1.67	2	2.6	2.9	3.4	3.68	4.17
65	1.29	1.67	2	2.6	2.9	3.4	3.66	4.15
70	1.29	1.67	1.99	2.6	2.	3.4	3.65	4.13
75	1.29	1.67	1.99	2.6	2.8	3.4	3.64	4.11
80	1.29	1.66	1.99	2.6	2.8	3.4	3.63	4.1
85	1.29	1.66	1.99	2.6	2.8	3.4	3.62	4.08
90	1.29	1.66	1.99	2.6	2.8	3.	3.61	4.07
95	1.29	1.66	1.99	2.6	2.8	3.	3.6	4.06
100	1.29	1.66	1.98	2.6	2.8	3.3	3.6	4.05
200	1.29	1.65	1.97	2.	2.8	3.3	3.54	3.97
500	1.28	1.65	1.96	2.5	2.8	3.3	3.5	3.92
1000	1.28	1.65	1.96	2.5	2.8	3.	3.49	3.91
Infinity	1.28	1.64	1.96	2.5	2.8	3.2	3.48	3.89

CONTINUATION OF THE SAMPLE UNIT

Unit 3

Circulation

1. The Cardiovascular System: Anatomy of the Heart and the Network of Blood Vessels
2. Congenital Heart Disease
3. Blood Pressure: Hypertension vs. Hypotension
4. Heart failure , Heart Attack and Cardiac Arrest
5. The Warning Signs of CVA
6. Heart Test;: Electrocardiography (ECG/EKG)
7. Heart Drugs
8. Career Profile of Cardiologists and Heart Surgeons
9. Consolidation

✦ **GRAMMAR:**

- ❑ Passive formation
- ❑ Present Perfect
- ❑ Plural formation
- ❑ Linking words of purpose
- ❑ Linking words of cause and consequence

✦ **VOCABULARY:**

- ❑ Noun formation
- ❑ Adjective formation
- ❑ Opposites formation

✦ **PRONUNCIATION:**

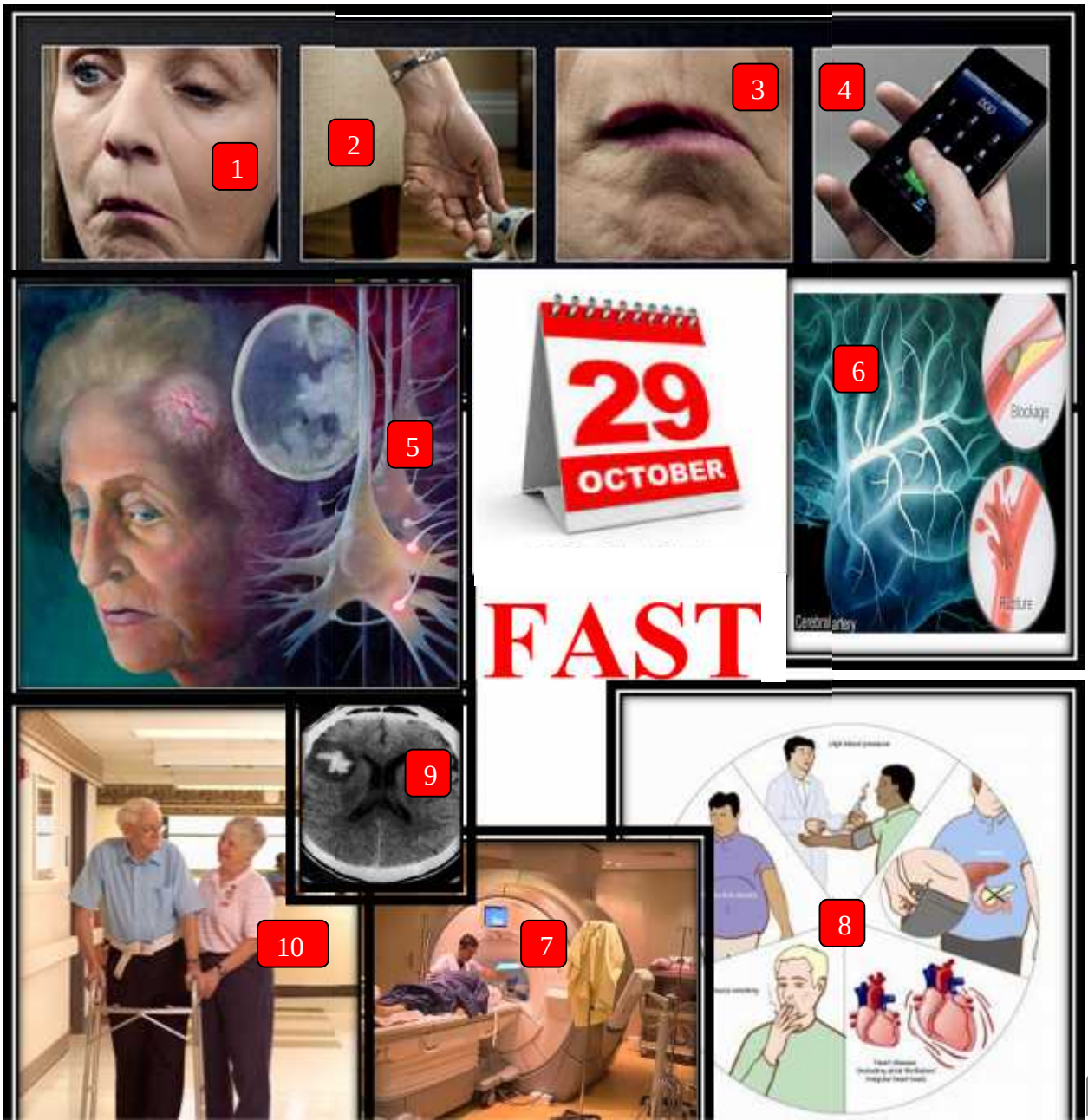
- ❑ Pronunciation of cardiovascular concepts
- ❑ Stress in nouns ending in: - ion
- ❑ Stress in adjectives ending in: -ic

The Warning Signs of Cerebrovascular Accident

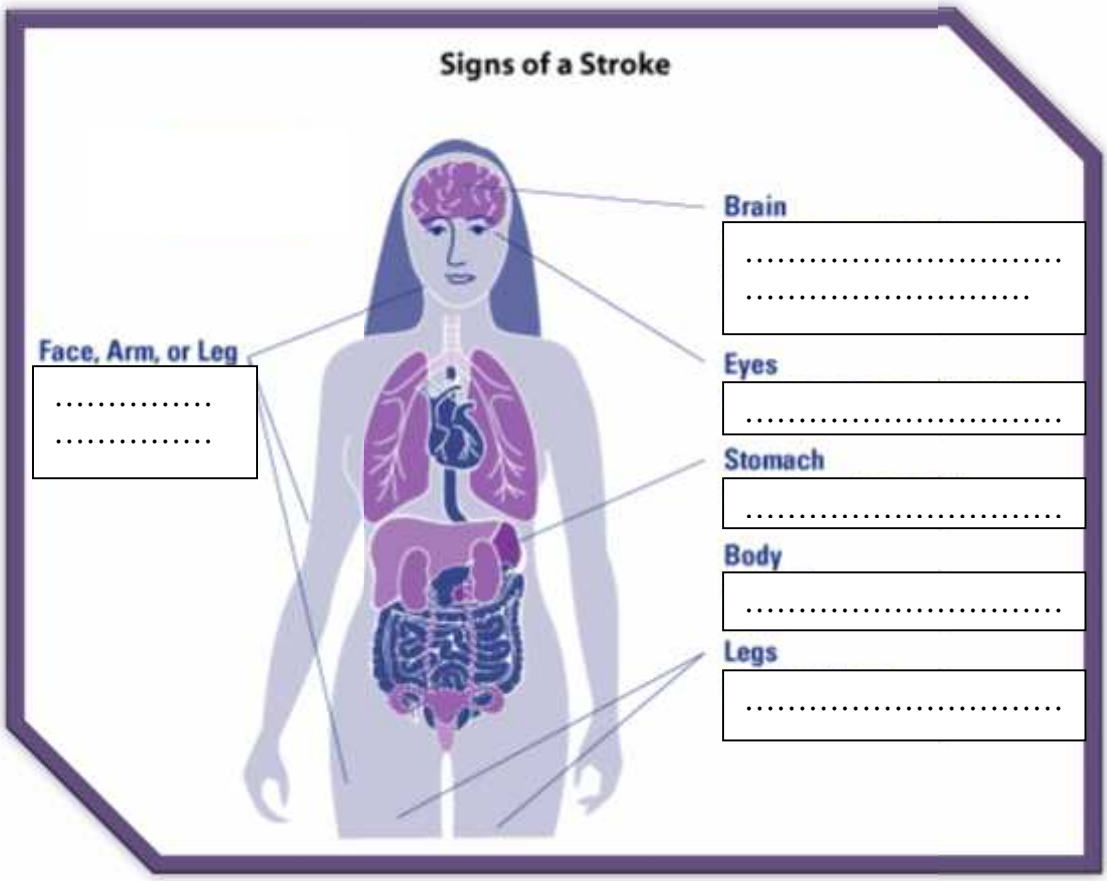
- **Lesson Objectives :** By the end of the lesson students should be able to :
  - Describe the clinical manifestations of CVA.
  - Talk about the different types of CVA.
  - Talk about the preventing measures.
  - Talk about the fast measures to take in case of CVA.
  - Talk about the recovery program.
- **Lesson Outline :**
- **Anticipation:** Look at the pictures.

In 2006 a world medical organisation established 29 October as an international day to spread awareness about a life-threatening condition and educate people about its warning signs. Guess what medical condition is it ? Discuss the pictures clues related to that disease.

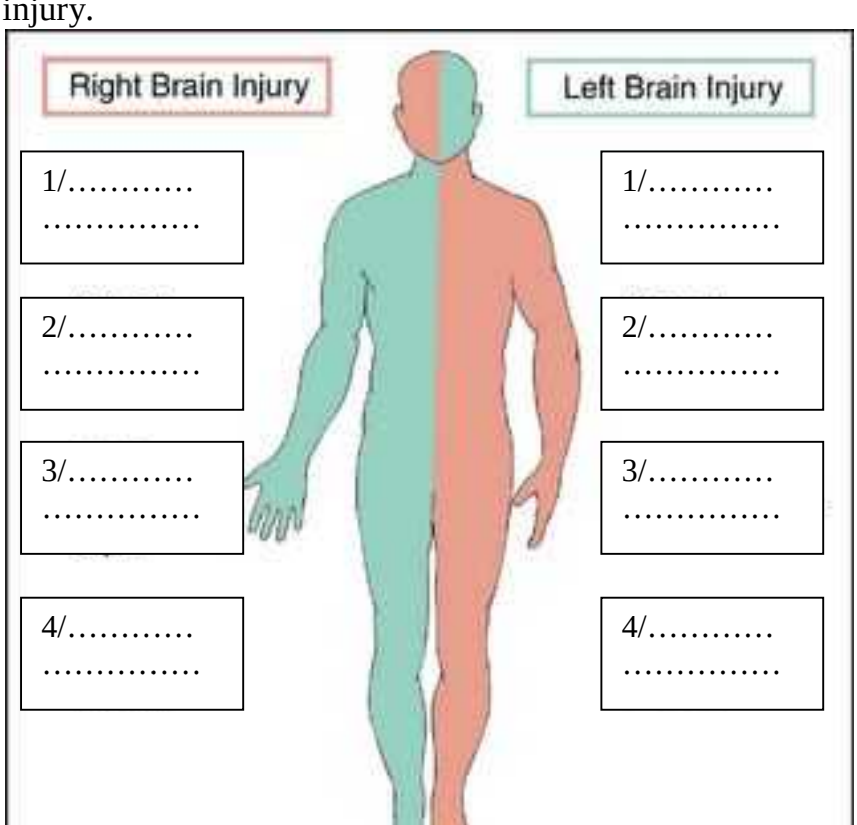
❖ What does the acronym FAST stand for?



- **Pre-Watching Phase:**
- **Task one:** Complete the picture with the clinical manifestations of CVA.



- **Task two:** The symptoms of a cerebral vascular accident depend on which part of the brain is affected. Complete the picture below with the typical signs of the right hemisphere injury and those of the left hemisphere injury.



- **Task three:** Reorder the following sentences to get a coherent paragraph.

A. various types of emboli can form,
B. and lodges within an artery in the brain.
C. In this example, an embolism is formed in the internal carotid artery,
D. The blocked artery deprives the brain of oxygen,
E. breaks loose, travels towards the brain and lodges in a cerebral artery.
F. damaging the surrounding brain tissue.
G. The result is a stroke.
H. such as one derived from platlets, thrombotic, cholesterol, or mixed.
I. A stroke may occur if an embolism travels from another part of the body
J. When an internal arterial wall becomes damaged,

- **Task four:** If a stroke is suspected, a doctor will probably want the patient to undergo one or more medical tests. Add the other medical tests to the list in the table.

Diagnostic Tests
▪ Magnetic resonance imagind (MRI) ▪ Lumbar puncture ▪ …….. ▪ …….. ▪ …….. ▪ …….. ▪ ……..

- **While-Watching Phase:**

- **Task five:** Watch the video and write down the different types of stroke.

Pathophysiology		Stroke Type
▪ It is caused by bleeding inside the brain..This can happen when a blood vessel bursts inside the brain or more rarely on the surface of the brain.	→	. .....
▪ It is a mini stroke.It happens when the blood supply to your brain is interrupted for a short time.The symptoms are only temporary.They will not last more than 24 hours.But it is still important to get treatment.	→	. .....
▪ It happens when the blood supply to part of your brain is blocked by a blood clot or a piece of fatty material.	→	.....

The Warning Signs of Cerebrovascular Accident

- **Task six:** Watch the video carefully .Then, Define the following medical concepts.

Medical concept	Definition
Cerebral thrombosis	
Cerebral embolism	
Inracerebral haemorrhage	
Subarachnoid haemorrhage	

- **Task seven:** Watch the video and complete the table below:

Stroke Risk Factors	Stroke Preventive Measures
▪ …….. ▪ …….. ▪ ……...…….. ▪ …….. ▪ ……..	▪ …….. ▪ …….. ▪ ……...…….. ▪ …….. ▪ ……..

- **Post-Watching Phase:**

- **Task eight : A/** Which type of CVA is more dangerous ?

  B/ How do cardioogists treat the different types of stroke?

Ischemic CVA Treatment Options	Haemorrhagic CVA Treatment Options
▪ …….. ▪ …….. ▪ ……...…….. ▪ …….. ▪ ……..	▪ …….. ▪ …….. ▪ ……...…….. ▪ …….. ▪ ……..

- **Task nine :** Imagine you are an active member in a World Stroke Organisation that promotes healthy living.Prepare a short talk to raise people's awareness about the warning signs of CVA.How to recognise them and how to take fast action.

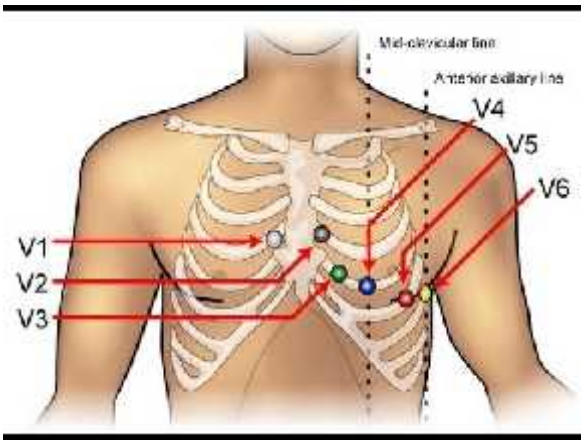
Spotlight on Grammar

- **Linking words: Expressing Cause and Consequence**
- **Task ten:** Express the sentences in the table differently.Use the linkers on the right.

Linkers	Sentences
so…… that such … that due to/since as a result of consequently because of that is why	1/ His blood pressure was very high that his wife took him to the emergency department. 2/ His EKG was abnormal that they delayed the operation. 3/ She suffered from a chronic stress therefore she got a TIA. 4/ His heart failure was so severe that his cardiologist recommended surgery. 5 /Heart attacks most often occur as a result of coronary artery disease.

Heart Test: Electrocardiography (ECG/EKG)

- **Lesson Objectives :** By the end of the lesson students should be able to :
  - Describe the normal wave forms in the electrical conduction of the cardiac system
  - Discuss the role and responsibilities of a nurse or a doctor monitoring EKG
  - Read and interpret an EKG strip.
  - Explain other screening tests for cardiac diseases.
- **Lesson Outline :**
- **Anticipation:**
  - Discuss the picture clues and their relation to the EKG?
  - What is an EKG used for?
  - Explain the procedure of an EKG in detail.
  - What's the responsibility of the nurse who monitors EKG?

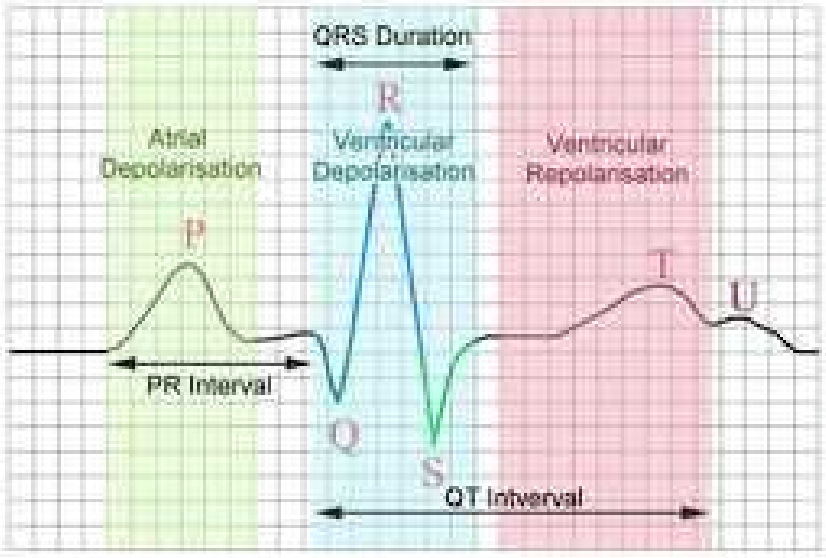


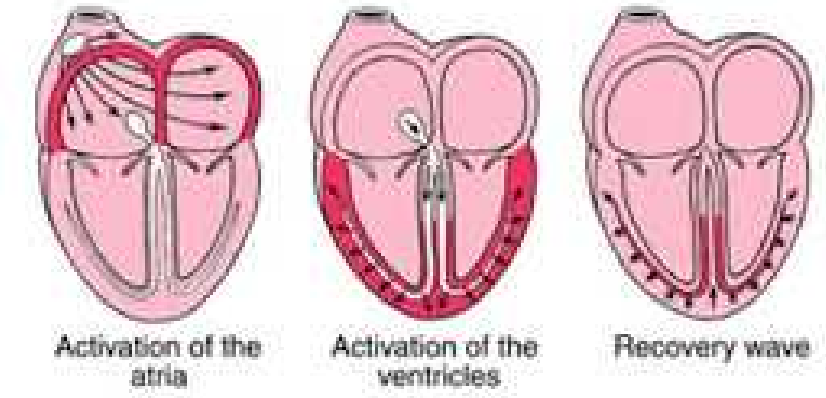
Heart Test: Electrocardiography (ECG/EKG)

- **Pre-Watching Phase:**
- **Task one:** Match the words with their definitions.

Words	Definitions
Stylus	The flow of electric current in the heart.
Tracing	Check or adjust an instrument before use.
Screening	The pen which produces the drawing.
Calibrate	A missed heartbeat.
A skipped heart beat	The marks produced by an EKG stylus.
Conduction	Testing for a disease.

- **Task two:** Work in pairs.Look at the ECG .Try to explain what is happening in the heart at points A,QRS and T .

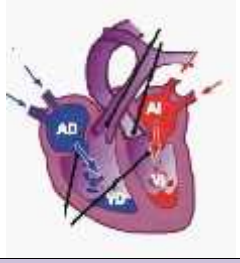
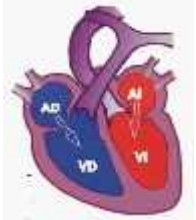




Heart Test: Electrocardiography (ECG/EKG)

- **Task three:** Fill in the gaps with the right verbs so each paragraph in the table below makes sense.Be careful to the tense form.

fill	**cause**	**relax**	**push**
Contract	**force**	**return**	**reach**

A heartbeat has three phases . In the first phase ,diastole the heart …….. and blood …….. the atria.This appears as a flat line on the EKG.	
In the second phase , an electrical impulse …….. the atria to …….. and …….. blood into the ventricles.This is point P on the EKG.	
In the third phase, the electrical impulse …….. the ventricles.These contract, …….. blood to the lungs and to the rest of the body.This phase include points Q,R and Son the EKG.The heart then …….. to its relaxed state, marked by point T.	

- **While-Watching Phase:**

- **Task four:** The following summary provides a brief general interpretation of an ECG but it contains mistakes. Watch the video sequence then correct the mistakes in the following passage.Then complete the 4 boxes below with the corresponding names of the ECG phases.

EKG A Brief Interprtation	**Mistakes**
A normal heart rhythm or sinus rhythm shows seven or eight waves or deflections on the ECG strip,which represent electrical changes through the heart.The deflections are known as P,QRS and T waves.The P wave, which represents the transmission of electrical impulses from the bandles of his, indicates ventricular contraction.The QRS waves represent the electrical impulses through the Purkinje fiber system and the SA node and ventricular walls during diastole.The T wave represents the electrical recovery and relaxation of the atria during systole.	1) …… 2) …… 3) …… 4) …… 5) …… 6) …… 7) …… 8) ……

1/…… ⇨ 2/…… ⇨ 3/…… ⇨ 4/……

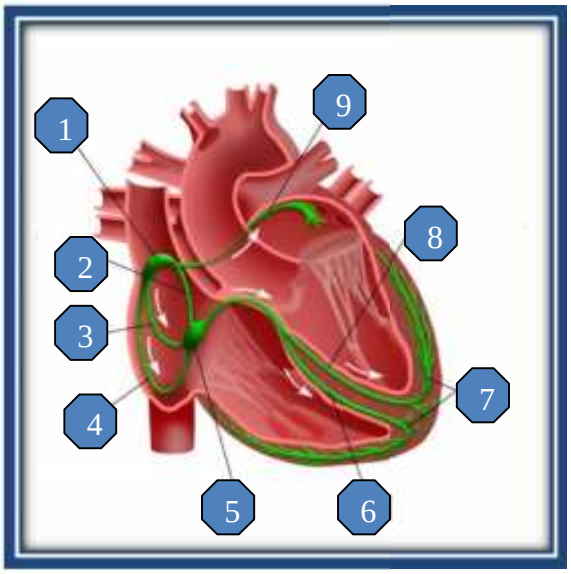
Heart Test: Electrocardiography (ECG/EKG)

- **Task five:** Watch the video sequence and answer the questions.

1) What is the difference between depolarization and repolarization ?
2) What is the other name of the sinoatrial node (SN)?
3) Where is it situated?
4) What is the PQ segment?
5) What is meant by the STsegment?

- **Task six:** Watch the video and name the different parts of the heart conducting system.

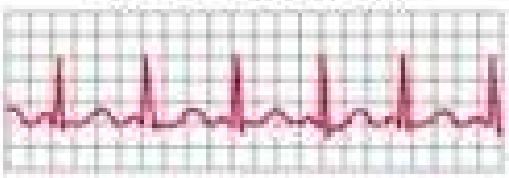
1. .....
2. .....
3. .....
4. .....
5. .....
6. .....
7. .....
8. .....
9. .....



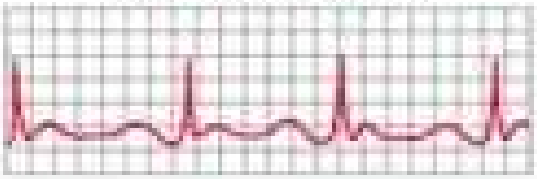
- **Post-Watching Phase:**
- **Task seven:** Rhythm strip interpretation

Identify the following heart rhythms ?

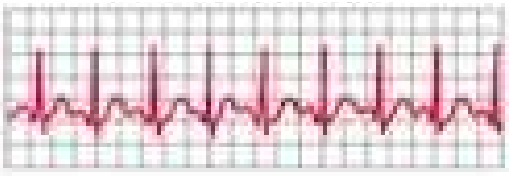
1/……..



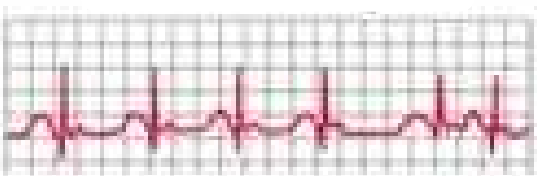
2/……..



3/……..



4/……..



Heart Test: Electrocardiography (ECG/EKG)

- **Task eight:** Fill in the gaps the following accurate summary of the heart conduction system**. Use the** words in the right column.

Words	Conduction System of the Heart
exertion **transmitted** **accelerate** **needle** **impulses.** **repolarization** **pacemaker** **depolarization** **decelerate** **sole** **altered** **forced** **initiate** **initiating** **relays** **rest** **pace** **tissue** **stylus** **spreading** **propagate** **detected**	In the heart, there is a specialized cardiac **1/……** known as conduction tissue has the **2/……** function of **3/……** and **4/ ……** contraction **5/……** This tissue consists of four masses of highly specialized cells that possess characteristics of nervous and cardiac tissue: sinoatrial (SA) node, atrioventricular (AV) node, bundle of His (AV bundle) and Purkinje fibers. The (1) sinoatrial (SA) node is located in the upper portion of the right atrium and possesses its own intrinsic rhythm. Without being stimulated by external nerves, it has the ability to **6/……** and **7/ ……** each heartbeat, thereby setting the basic **8/……** for the cardiac rate. For this reason, the SA node is commonly known as the **9/……** of the heart. Cardiac rate may be **10/……** by impulses from the autonomic nervous system. Such an arrangement allows outside influences to**11/……** or **12/……** heart rate. For example, the heart beats more quickly during physical **13/……** and more slowly during **13/……** . Each electrical impulse discharged by the SA node is **14/……**to the (2) atrioventricular (AV) node, causing the atria to contract. The AV node is located at the base of the right atrium. From this point, a tract of conduction fibers called the (3) bundle of His (AV bundle), composed of a right and left branch, **15/……** the impulse to the (4) Purkinje fibers. These fibers extend up the ventricle walls. The Purkinje fibers transmit the impulse to the right and left ventricles, causing them to contract. Blood is now **16/……** from the heart through the pulmonary artery and aorta. Thus, the sequence of the four structures responsible for conduction of a contraction impulse is: SA node → AV node → bundle of His →Purkinje fibers Impulse transmission through the conduction system generates weak electrical currents that can be **17/……** on the surface of the body. An instrument called an electrocardiograph records these electrical impulses, using a **18/……**, or 1**9/……**, that records the activity on graph paper. The **20/……** deflection of the electrocardiograph produces waves or peaks designated by the letters P, Q, R, S, and T, each of which is associated with a specific electrical event: • The P wave is the **21/……** (contraction) of the atria. •The QRS complex is the **22/……** (contraction) of the ventricles. • The T wave, which appears a short time later, is the **23/……** (recovery) of the ventricles.

Heart Test: Electrocardiography (ECG/EKG)

- **Task nine:** Prepare a 5mn talk about exercise tolerance test.Explain:

- What is an exercise tolerance test and what is it used for ?
- How is this stress test performed ?
- Why does the test requires a bicycle or a treadmill ?
- How long does the test last ?

- **Task ten:** If a patient is suspected with heart condition , blood tests, a chest X-ray and one or more heart tests are ordered to exclude or make a diagnosis of specific heart disease. In a group of three, prepare a talk explaining to a novice medical student the difference between the following heart tests.

- Holter monitoring
- Echocardiogram. .
- Cardiac catheterization. .
- Cardiac computerized tomography (CT) scan.
- Cardiac magnetic resonance imaging (MRI).
- Myocardial Biopsy
- Pericardiocentesis

Heart Drugs

- **Lesson Objectives :** By the end of the lesson students should be able to :
  - Talk about drugs classification and their therapeutic actions
  - Talk about the interaction between medication and human body
  - Talk about beta blockers
  - Talk about ace-inhebitors
  - Talk about anti-coagulants
  - Talk about diuretics
  - Talk about other cardiovascular drugs and their side effects
- **Lesson Outline :**
- **Anticipation:** Look at the photos:
  - What is the difference between brand names and generic medicines?
  - Classify these heart drugs into generic and brand names.
  - For what heart conditions are these drugs prescribed ?

Heart Drugs

- **Pre-Watching Phase:**
- **Task one: A/** Match the drugs (A-O) to their type.
  B/ Explain what each drug is used for?

Name of the drug	Drug Type
A. Atarax	Laxative
B. Paracetamol	Analgesic
C. Voltaren	Antiimenic
D. Cyclizine	Antihistamine
E. Forlax	Respiratory
F. Salbutamol	Analgesic
G. Aspirin	Antidiarrheal
H. Amoxicillin	Sedative
I. Ranitidine	Antibiotics
J. Gaviscon	Gastrointestinal
K. Spasfon	Antifungal
L. Chlorephenamine	
M. Diazepam	
N. Smecta	
O. Actapulgite	

- **Task two:** Medication can be administered in a variety of different ways. Read the definitions below and complete the table with the right words.

intravenous route - oral route- topical route - intramuscular route- rectal route-enteric-nasal- infusion- subcutaneous – buccal- otic –sublingual - transdermal – ophthalmic-inhaled

Administration Mode	Definition
	swallowed by mouth as a pill, liquid, tablet or lozenge
	suppository inserted into the rectum
	injected into vein with a syringe or into intravenous (IV) line
	injected into a vein with an IV line and slowly dripped in over time
	injected into muscle through skin with a syringe
	applied to skin
	delivered directly into the stomach with a G-tube or J-tube
	sprays or pumps that deliver drug into the nose
	inhaled through a tube or mask (e.g. lung medications)
	drops into the ear
	drops, gel or ointment for the eye
	under the tongue
	held inside the cheek
	a patch on the skin
	injected just under the skin

- **While-Watching Phase:**
- **Task three:** Watch the first video sequence and answer the questions.
  1. What does the heart's conductive system transmit to the cardiac muscle cells?
  2. What do epinephrine and norepinephrine do?
  3. What are the mechanisms of action of beta blocking medications?
  4. What heart conditions do beta- blockers treat?

- **Task four:** Watch carefully the second video sequence and fill in the gaps.

Blood pressure is …….. by …….. in the body that change the …….. of the blood vessels depending on the needs of the body: …….. to let more blood flow or …….. to allow less blood to flow. For example, a chemical called …….. can bind to another …….. in the body called an …….. …….. Enzyme, or……. . Once……., a new chemical called …….is created. …….binds to …….on the surface of vascular smooth ……. causing these blood vessels to narrow, thereby increasing ……. .

To treat hypertension, a class of medications called ……. may be prescribed. They regulate blood pressure by inhibiting, or blocking the action of……. . This prevents the chemical conversion of …….to……., thereby reducing blood vessel…….. . Overall, this can cause the blood vessels to ……. , ……. blood pressure and making it easier for the heart to pump blood effectively.

- **Task five:** Watch the third video sequence and answer the questions.

a) What is coagulation ?
b) Why ar clots formed ?
c) What does activated vitamin K do in a liver cell ?
d) What medical problems are caused by abnormal clotting ?
e) What are the mechanisms of action of anticoagulant drugs ?
f) When are they prescribed ?
g) Can anticoagulants dissolve the existing blood clots in the blood stream ?

- **Task six:** Watch the fourth video sequence and answer the questions

1) What is the role of the nephron ?
2) What is the renal corpuscle ?
3) How do diuretics decrease blood pressure?
4) For which heart conditions are diuretics prescribed ?

- **Post-Watching Phase:**

- **Task seven:** There are three types of diuretics: thiazide, loop and potassium-sparing. Each type affects a different part of the kidneys and may have different uses, side effects and precautions. Which diuretic is best for the patient depends on his health and the condition being treated. Classify those diuretics in the table below:

Chlorothiazide (Diuril) / Amiloride / Chlorthalidone /Hydrochlorothiazide / (Microzide) / Indapamide /Spironolactone (Aldactone)/Triamterene (Dyrenium) /Furosemide (Lasix) /Torsemide (Demadex) /metolazone /Bumetanide (Bumex) /Ethacrynic acid (Edecrin)/Eplerenone (Inspra)/

Thiazide Diuretic	Loop Diuretics	Potassium-Sparing Diuretics
- Chlorothiazide (Diuril) ▪ …….. ▪ …….. ▪ …….. ▪ …….. ▪ ……..	- Bumetanide (Bumex) ▪ …….. ▪ …….. ▪ …….. ▪ …….. ▪ ……..	-Amiloride ▪ …….. ▪ …….. ▪ …….. ▪ …….. ▪ ……..

- **Task eight:** Prepare a 5 mn talk in which you explain non drug therapy for cholesterol.

- **Task nine:** Work in pairs.**A/** Complete the table below.

B/ Prepare a 10 mn talk about the listed cardiovascular drugs and mention their contraindications.

Medication Type	What the medication does	Reason for Medication
a) Anticoagulants b) Antiplatelet Agents c) (ACE) Inhibitors d) Angiotensin II Receptor Blockers e) Beta Blockers f) Combined alpha and beta-blockers g) Calcium Channel Blockers h) Cholesterol-lowering medications i) Diuretics j) Vasodilators		

- **Task ten:** In a group of four. Discuss drug treatment of the following heart conditions.

- Hypercholesterolaemia
- Hypertension
- Hypotension
- Bradycardia
- Angina
- Heart failure
- Stroke

Spotlight on Pronunciation

- **Adjectives ending in " - ic " and nouns ending in " - ion " :**
- **Task eleven:** Identify the stressed syllable.Then read aloud the words.

palpitations - ischemic - coagulation – therapeutic- inflammation - microscopic – sensation- fibrillation- thoracic- catherization - fibrillation – diuretic- antiseptic –systemic –systolic-diastolic- arrhythmic- catherization – aortic –oxygenation- accumulation - vasoconstriction- hemorrhagic

Career Profile of Cardiologists and Heart Surgeons

- **Lesson Objectives :** By the end of the lesson students should be able to :
  - Describe the medical path career of cardiologists and heart surgeons.
  - Draw a comparison between Algerian and American medical education.
  - Discuss some issues related to health care services in Algeria
  - Describe in detail a typical day of work in the cardiology department.
- **Lesson Outline :**
- **Anticipation:** Look at the photos:

1) What do they show? Guess what are today's topics of discussions.
2) Do you know Dr. Oz?
3) Do you know that he is a muslim?
4) Do you know that besides being a television personality Dr. Oz is a renown cardiothoracic surgeon and a well- regarded and a best-selling author as well?
5) Have you ever watched his TV show?If so what do you like in it?
6) Would you like to present a similar medical show on the Algerian channels? Justify.
7) Do you know how the young man in the picture contributes to the field of medicine?
8) When was the organization MSF"Doctors without Frontiers" founded and what for?

LESSON 8

Career Profile of Cardiologists and Heart Surgeons

- **Pre-Watching Phase:**
- **Task one:** Read carefully the text bellow, then fill in the gaps with the appropriate words.

treatment	**computerized**	**heart surgery**	**anatomy**	**internal**
heart	**procedure**	**disorders**	**cardiologists**	**cardiac**
circulatory	**vessels**	**conditions**	**heart**	**abnormalties**

A cardiologist practices in a branch of 1/ …….. medicine that deals with the diagnosis and treatment of 2/ …….. of the heart and 3/ …….. system, including those that stem from birth 4/ …….. , diseases, or advancing age. Cardiologists take care of a variety of heart 5/ …….. , such as rheumatic heart disease in children and congestive heart failure and heart attack in adults.

Cardiology and cardiovascular surgery complement each other. Over the years, doctors in these fields have worked closely together in the 6/ …….. of heart diseases. For example, the cardiologist may determine that a child has been born with a hole between the chambers of the 7/ …….. ,the cardiovascular surgeon is the one who will repair this hole through open 8/ ……..

A cardiologist must be acquainted not only with 9/ …….. and physiology but also with modern 10/ …….. diagnostic equipment. One special diagnostic11/ …….. performed by cardiologists is 12/ …….. catheterization, in which a catheter is inserted into the 13/ …….. and adjacent blood 14/ …….. , allowing the injection of a special dye that affords a view of those structures. Angioplasty (the opening of a blocked artery by insertion of a balloon-tipped catheter) is a treatment procedure that is commonly performed by 15/ …….. .

- **Task two:** Dr.Joseph Loscalzo is an excellent cardiologist and a basic science researcher.He is an example of hard work, self-discipline and success. The conversation below is an extract of an interview between a journalist and Dr Loscalzo, read it carefully and find out the journalist's questions.

Journalist :	……..?
Dr.Loscalzo:	There were several people: Gene Braunwald has always been a very positive force and influence in my career as a cardiologist and cardiovascular investigator; Tom Smith was also an important guide and mentor; Bob Handin, a hematologist, with whom I worked as a resident and fellow to learn about thrombosis and platelet function, was a very helpful mentor; and Michael Gimbrone, as a premier vascular biologist, has always been a very positive influence as well.It is important to have a mentor who has a clear sense of where the field is going and in which direction you should apply your attention and efforts.
Journalist:	……..?
Dr.Loscalzo :	I managed to balance administrative responsibilities, clinical duties, continuing an active research career, and serving as editor of a major medical journal because I do love what I do and I believe in my mission.You have to be very organized. If you wish to pursue this kind of multifaceted professional life, having this varied a career and a disorganized phenotype are completely incompatible.Second ,you have to surround yourself with bright people who are not afraid to tell you what they think, but who have a similar set of academic values as you do.Third, you have to make decisions efficiently and effectively,
Journalist :	……..?
Dr.Loscalzo	If any fellow-in-training is thinking about a career as an investigator in cardiology, I would tell him :Be tenacious, be committed and don't be discouraged. 

- **While-Watching Phase:**
- **Task three:** Dr. Oz was raised in a family of doctors , his father was a cardiothoracic surgeon and his mother was a surgeon and ran a pharmaceutical company.Watch the video **"Behind the Scrubs"** and find out more information about Dr.Oz, then answer the following questions**.**

1) Why did Dr. Oz decide to join the field of medicine when he was only seven?
2) Who inspired Dr. Oz ?
3) Was Dr Oz's father -in-law a surgeon?
4) What did Dr.Oz say about his field of specialism in Medicine?
5) Who was on the team that performed the first heart transplant in America in 1968 ?
6) What do Dr.Oz say about teachers and teaching?
7) Are pressure and failure Dr.Oz' worst enemies?
8) When did he start his outstanding talk show "Dr. Oz Show"?

- **Task four:** Watch the video **"Dr Oz :A Different Side of the famed Heart Surgeon."**,then answer the questions:

1) Has Dr.Oz operated on Smokers ?
2) What heart problem did Diana Cepeda suffer from?
3) What did Dr.Oz discover while operating on Diana?
4) What does the operation scar mean to Diana?
5) How often does Dr .Oz perform heart surgery at the New York-Presbyterian Hospital?
6) What advice does Dr.Oz give to heart surgeons?
7) Does Dr.Oz come from a poor or a very well-off Tukish family?
8) What was Dr.Oz craving to show his father?

- **Task five:** Watch carefully the video about medical carreers;How to become a cardiologist or a heart surgeon,then say whether the following information is true ,false,or not mentioned.

1) The Medical College Admission Test (MCAT) is a standardized, multiple-choice examination created to help medical school admissions offices assess the candidates' problem solving, critical thinking, and knowledge of natural, behavioral, and social science concepts and principles prerequisite to the study of medicine.
2) The MCAT is a highly competitive entry test to American medical schools.

3) Undergraduate medical education in USA lasts 7years.i.e,American medical students need to complete 7 years of medical school to earn the Medical Doctor (M.D.) degree
4) During medical school, students typically spend the first two years taking lectures and laboratory courses in the sciences, such as biochemistry, pathology, pharmacology, microbiology, anatomy and physiology
5) The American medical student spend the remaining years completing clinical rotations in a variety of medical specialties, such as internal medicine, pediatrics, psychiatry, obstetrics and gynecology, family practice and surgery.
6) After completing medical school, training cardiologists go on to complete a 3 year residency program in internal medicine.
7) These programs are typically paid and allow residents to gain hands-on experience under the supervision of licensed physicians.
8) Following a residency, aspiring cardiologists undergo up to five years of training in fellowship programs focused on the area of cardiology in which they wish to practice. Schools offer cardiology fellowship programs in a variety of specializations, such as cardiovascular diseases, interventional cardiology and heart failure.

- **Post-Watching Phase:**
- **Task six:** Describe the medical path career of the following specialists in the Algerian medical system: cardiologists, heart surgeons. Based on the information of the video , draw a comparison between Algerian and American medical education.
- **Task seven: Guided Discussion**

1) If you had the opportunity to study abroad, which country would you choose? Why?
2) What do you think of the Algerian medical system of education?
3) What do you think of the quality of health services in Algeria in general and in Tlemcen in particular?
4) What do you say about Algerian health services in the following sectors: Public hospitals , private clinics and military hospitals? In which sector do you prefer working and why?
5) What do you think of medical research in Algeria?Is the future very promising?
6) Who is your role model as a doctor?
7) Dr .Zaki Allal is a model of successful young Algerian leaders,he wished to be a heart surgeon or a neurosurgeon, he also wished to join MSF “Doctors

without frontiers", he even imagined himself landing in African villages helping people but his life took him to a different direction, he is now the director of Singularity University.Would you like to join this university?

8) In the second video,Diana Cepeda didn t consider Dr.Oz as TV doctor but as a true surgical super star. And Dr.Oz himself said. " I never thought of myself as a celebrity and I don't say that with false modesty,"What do you think of Dr.Oz who succeeded both as a surgeon in the operating room and as a superb TV host in the TV studio?
9) If you had financial support from the Algerian health authorities and from the Algerian media to launch a project that promotes health and life style and makes a difference in the Algerian society, what would you do?

- **Task eight:** The smooth running of the department of cardiology in Tlemcen hospital depends on the hard work and collaboration of a highly trained team of heart surgeons, cardiologists and very skilled nurses. Work in groups of four and make a detailed description of a typical day in the cardiology department. Describe the different health services provided to patients.

Pronunciation

- **Task one:** Identify the stress in the following words.Then read them aloud.

A one-two-or three syllable concepts

dioxide	cyanosis
aorta	dyspnea
edema	syncope
sweat	angitis
anxiety	phlebitis
tricuspid	aneurism
bicuspid	coagulate
ischemia	thrombosis
arrhythmia	valvular

B Longer Concepts

endocarditis
myocarditis
pericarditis
vasculatis
regurgitation
dyslipidemia
fibrillation
diaphoresis
tachypnea
epinephrine
norepinephrine
phygmomanometer.
valvuloplasty
ventriculotomy
antihypertensive
neurotransmitters
hyperlipidemia
hypercholesterolaemia
cardiomyopathy
breathlessness
atherosclerosis

C Two Cconcepts

Purkinje fibers
cerebral hemorrhage
sinus rhythm
angina pectoris
arterial biopsy
sinoatrial node
cardiac catherization
squeezing sensation
fetal circulation
atrioventricular node
cardiopulmonary bypass
cardiopulmonary resuscitation
carotid artery
cerebral embolism
subarachnoid hemorrhage
supraventricular tachycardia (SVT)
cerebrovascular occlusion

D Three Cconcepts

pulmonary semilunar valve
transient ischemic attack (TIA)
coronary artery anomaly
patent ductus arteriosus
mitral valve prolapse
occulsive vascular disease
angiotensin receptor blocker
angiotensin-converting enzyme
patent foramen ovale

Grammar

A Present Perfect

- **Task two:** Complete the sentences with**:**

for, since, ago, yet, ever, already or **before**

1) Mortality rates of CVA have considerably increased ……. the last five years.
2) The patient has ……. experienced an earlier mild stroke.
3) The research team found out a new drug for MI, seven months ……. .
4) Have you ……. had triglycerides blood test?
5) She has been off diuretic drugs ……. 12 weeks ……. April 2, 2014,
6) Has the patient suffered from coronary heart disease ……. ?
7) Three months ……. he was put on water pills.
8) Dr.Malti has not published his last book about heart pathologies …….. .

- **Task three:** Ask questions on the underlined words.

1- **Over 4000** residents have gone on strike.
► ……

2- Dr.Malti has performed **more than twenty** stress tests this week.
► ……

3- Mr and Mrs.Morsli have been hospitalizsd **for more than two weeks.**
► ……

4-The left part of the heart has been damaged **by heart attack.**
► ……

5-He has gone to Mustapha Pacha hospital **to undergo a bypass surgery**.
► ……

6-New research **has cast** doubt on the benefits of bypass surgery for many patients with very weak hearts.
► ……

7-The speakers have been **doctors, researchers, nutritionists, and specialists in alternative medicine techniques.**
► ……

8-An artificial heart has been transplanted into a patient for the first time in medical history, at the Georges Pompidou Hospital in Paris.
► ……

Grammar

B Forming Plural

❑ **Task four:** Give the plural form of theses words:
arrhythmia – septum –tissue – impulse- arteriole- analysis –atrium- artery

C Passive Voice

❑ **Task five:** Complete the second sentence so as to have the same meaning as the first.

1- Pericarditis affects people of all ages.
► People of…….....……
2- The EKG shows signs of heart damage.
► Signs…….....……
3- People with CAD must take all of their medication.
► All…….....……
4- TIA is caused by a clot.
► A clot…….....……
5- Alcohol can cause a sudden rise in blood pressure.
► …….....……
6- Antiplatelet medications have been prescribed after a heart attack.
► …….....…
7- Scientists are investigating new strategies to detect heart transplant rejection.
► …….....……
8- Cardiologists have studied several aspects of treatment for coronary artery disease and peripheral vascular disease.
► …….....……
9- Our cardiologists and cardiac surgeons are always conducting clinical trials of new drug therapies, surgical procedures, heart devices and imaging techniques.
► …….....…
10- The buildup of fatty deposits in artery walls increases the risk for heart attack and stroke.
► …….....…
11- Hypertension has affected 31 percent of Algerian adults.
► …….....……
12-Cardiac imaging experts are applying the latest imaging technologies, including three-dimensional echocardiography, cardiac magnetic resonance imaging (MRI) and 256-slice CT angiography -- to assess heart function and to better plan treatment.
► …….....……

Grammar

D Linking Words of Purpose

❑ **Task six:** Complete the sentences using your own words.

1. The doctor ordered a full blood account test **in order to**…….
2. The artificial heart was transplanted **in order to**……..……..
3. The faculty of Medicine offers scholarships **so that**…….
4. The cardiothoracic surgeon recommended a myocardial biopsy **in order to**……..
5. He is seriously controlling his cholesterol level so as not to have **so as not to**……..

E Linking Words of Cause and Consequence

❑ **Task seven:** Complete the sentences using your own words.

1. The cardiologist prescribed plavix and aspirin **because**……
2. Ischemic strokes occur **as a result of** ……
3. **As** he was on strict diet plan and used his antihypertensive medication regularly,… ……..
4. Dr.Malti is **so** competent **that**……..
5. The patient was saved **thanks to**…….
6. A lot of Algerians died of CVA **due to**……..

General Vocabulary

A Forming Opposites

❑ **Task eight:** Give the opposite keeping the same root.

diagnose- curable-normal-controllable-painful-infect-successful-compatible active- effective-balance- oxygenated – fibrillation-coloration.

B Forming Words

❑ **Task nine:** Which nouns can be derived from the following verbs.

to injure-to try- to recover-to prescribe-to occur-to dilate-to damage-to screen-to donate – to withdraw – to propose-to press- to weaken - to remove- to drain.

❑ **Task ten:** Complete the table.

Verb	Noun	Adjective
todiagnose		
		healthy/healthful
	blood	
to treat		
	palpitation	
to infect		
		Curable
to prevent		
	paralysis	
tocoagulate		
	hardening	
		obstructive
		Blocked
	thickening	
tostrenghten		
		Swollen
		inflammatory
		Regulatory
	operation	

Medical Vocabulary

A Cardiovascular Terminology

❑ **Task eleven :** Match each medical concept with its definition

Medical Concept		Definition
1. pericardium 2. myocarditis 3. SA node 4. Tricuspid 5. edema 6. aneurysm		a. localized dilatation of a blood vessel b. pacemaker of the heart c. fibrous sac around the heart d. inflammation of the heart muscle e. right atrioventricular valve f. the swelling of part of the body due to accumulation of fluid in tissue spaces
7. occlusion 8. fibrillation 9. resuscitation 10. catheterisation 11. infarction 12. claudication		a. putting a catheter into a patient's body b. ineffective quivering of muscle c. muscular pain during exercise d. local death of tissue e. blockage f. reviving someone who seems to be dead, by making him breathe again.
13. atherosclerosis 14. pulmonic valve 15. ischemia 16. sinus rhythm 17. asystole 18. cardiomegaly		a. normal heart rhythm b. an enlarged heart c. absence of a heartbeat d. accumulation of plaques in the blood vessels e. valve that regulates blood flow to the lungs f. deficient blood supply to part of the body
19. thrombosis 20. arterial biopsy 21. statin 22. vena cava 23. Purkinje fibers 24. precordium		a. drug that lowers cholesterol level b. part of the heart's conduction system c. part of the thorax over the heart d. vessel that empties into the right atrium e. formation of a blood clot in a vessel f. removal of a small segment of an artery for diagnostic purposes
25. stenosis 26. angina 27. cyanosis 28. tachypnea 29. diaphoresis 30. interatrial		a. rapid breathing b. between the atria c. chest pain d. the state of excessive perspiration e. condition in which a passage becomes narrow f. bluish discoloration of the skin

Medical Vocabulary

B Cardiovascular Abbreviations

- **Task twelve: D**efine the following medical abbreviations:

CHD	CHF	ACE	CABG	PDA	TIA
CAD	LV	CVA	LA	ASD	SN
CVD	MI	VSD	PFO	SCA	CPR

C Medical Prefixes

- **Task thirteen:** Explain the meaning of the following medical prefixes:
  bi- / tri- / peri- / anti- / micro -/ endo- / epi -/ brady- / tachy-

D Medical Suffixes

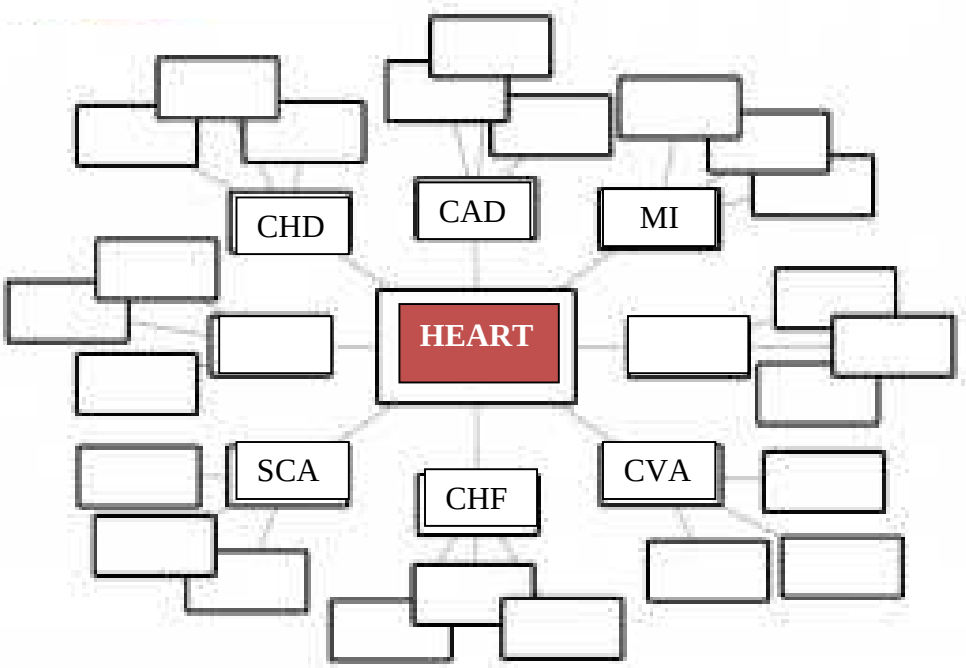
- **Task fourteen:** Explain the meaning of the following medical suffixes:
  -pathy /- plasty /- tomy / -ectomy / -cyte/ -gram / - graphy/-megaly/ -ole,-ule/
  - oma / - osis /- pnea /- ectasis /-lypsis /-rrhaphy

E Forming Adjectives

- **Task fifteen:** Which adjectives can be derived from the following words:
  hypertension - septum - ischemia -thorax-ventricule - pathology - hemorrhage- surgery- bradycardia angina - tachycardia – vessel -diaphoresis

F Cardiac Pathologies

- **Task sixteen**: Complete the following heart mind map about cardiac pathologies and their clinical symptoms, you may add extra boxes if necessary.



Medical Vocabulary

❑ **Task seventeen:** Compare and contrast the following cardiovascular concepts.

- atria / ventricles
- superior vena cava / inferior vena cava
- vena cava / aorta
- systole / diastole
- hypertension / hypotension
- bradycardia/ tatchycardia
- heart attack /cardiac arrest
- transient ischemic attack/ ischemic attack
- congenital heart disease / congestive heart failure /coronary artery disease
- endocardium / pericardium / myocardium
- endocarditis / pericarditis / myocarditis
- arteritis / arteriolitis

G Cardiovascular Medication

❑ **Task eighteen:** Explain the therapeutic benefits of the following cardiovascular drugs and indicate their side effects.Give examples of some drug names available in the Algerian market.

1. Antihypertensive = ...
2. Antiarrhythmics = ...
3. Anticoagulant = ...
4. Antiplatelet = ...
5. ACE = ...
6. Vasodilators = ...
7. Beta Blockers = ...
8. Diuretics = ...
9. Statins = ...

H Unit Summary

❑ **Task nineteen:** In a group of four, prepare a 20 mn talk summarizing the whole unit.

1	⇨	The structure and the functions of the heart
2	⇨	The most common cardiovascular pathologies
3	⇨	Clinical manifestations
4	⇨	Diagnostic tests + procedures
5		Treatment options +drugs types +actions
6	⇨	Medical advice+ preventive measures

VIDEO SCRIPTS OF THE SUGGESTED LESSONS

Lesson 1 : The Cardiovascular System: Anatomy of the Heart and Network of Blood Vessels

- **Video : The circulatory system**
- **Sequence Length: 02:57**

Your heart is a pump. It is a muscular organ about the size of your fist and it is located slightly left to the centre in your chest.Your heart is divided into the right and left side.The division protects oxygen-rich blood from mixing with oxygen -poor blood.Together your heart and blood vessels comprise your cardiovascular system which circulates blood and oxygen around your body.

In fact , your heart pumps about five quarts of blood every minute and beats about one hundred thousand times in one day that about thirty five million times in a year. Oxygen -poor blood, blue bood returns to the heart after circulating in your body.

The right side of the heart is composed of the right atrium and right ventricle collects and pumps blood to the lungs through the pulmonary arteries.The lungs refresh blood with new supply of oxygen making it turns red

Oxygen rich blood, red blood then enters the left side of the heart , composed of the left atrium and left ventricle and is pumped through the aorta to the body to supply tissues with oxygen.

Four valves within your heart keep blood moving the right way: The tricuspid, the mitral, the pulmonary and the aortic valves work like gates on a fence.They open only one way and only when pushed on. Each valve opens and closes once per heart beat or about once every second.

A beating heart contracts and relaxes.Contraction is called systole and relaxing is called diastole. During systole your ventricles contract forcing blood into your lungs and your body.The right venticle contracts before the left ventricle does.Your ventricles relax during diastole and are filled with blood coming from the uppar chambers , the left and the right atria. Then the cycle starts over again.

Your heart is nourished by blood ,too.Blood vessels called coronary arteries extend on the surface of the heart and branch into smaller capillaries.Here you can see just a network of blood vessels that feed your heart with oxygen –rich blood .

Your heart has also an electrical wiring which keeps it beating. The electrical impulses begin high in the right atrium and travel through specialised pathways to the ventricles delivering the signal to pump, the conduction system keeps your heart beating in a cordinated and normal rhythm which in turns keeps blood circulating .The continuous exchange of oxygen rich -blood with oxygen -poor blood is what keeps you alive.

- **Video 1: Congenital Heart Defects**
- **Sequence Length: 01:18**

A congenital heart defect is a problem with the structure of the heart. It is present at birth. Congenital heart defects are the most common type of major birth defect.

A baby's heart begins to develop shortly after conception. During development, structural defects can occur.

These defects can involve the walls of the heart, the valves of the heart and the arteries and veins near the heart. Congenital heart defects can disrupt the normal flow of blood through the heart.The blood flow can: slow down, go in the wrong direction or to the wrong place,be blocked completely.

Treatment for the defect can include medicines, surgery and other medical procedures and heart transplants. The treatment

depends on the type and severity of the defect and a child's age, size and general health.

Today, many children born with complex heart defects grow to adulthood and lead productive lives.

- **Video 2: Types of Congenital Heart Defects**
- **Sequence Length: 02:40**

Congenital heart defect is the term given when one or more defects in the structure of the heart are present at birth. Approximately eight out of 1,000 infants are born with some type of congenital heart defect. In the past, being born with a heart defect meant a shortened lifespan; however, advances in medical technology now offer the chance for longer life expectancy.

Two of the more common congenital disorders are ventricular septal defects and atrial septal defects, or VSD and ASD, respectively. Both are abnormal openings in the wall between the side of the heart that pumps oxygen-poor blood to the lungs, and the side that pumps oxygen-rich blood out to the body.

A VSD is a hole that occurs in the septum, or wall, that lies between the left and right ventricles, or lower chambers. An ASD is a hole that occurs in the septum between the left and right atria, or upper chambers. In both cases, oxygen-rich blood from the left side seeps into the right side. This decreases the amount of circulating oxygen and puts additional strain on the heart and lungs.

A patent foramen ovale, or PFO, is a type of ASD. The foramen ovale is a natural opening that exists between the right and left atria in the fetal circulatory system. The hole usually closes after the infant takes its first breath. If it fails to close, it is considered patent, or open. A PFO does not always cause health problems.

Much less common, but potentially more serious, is a patent ductus arteriosus, PDA. The ductus arteriosus is a normal structure in the fetal circulatory system that allows blood to bypass the fetal lungs, since the lungs are not needed for respiration while the fetus is in the womb. This channel normally closes after birth. If it remains open, blood will flow from the aorta into the pulmonary artery. If the hole is large enough, it may lead to heart failure.

Heart defects can also include narrowed or constricted blood vessels. One of the more common types of vascular defects is coarctation of the aorta. A narrowed or pinched aorta forces the heart to work harder to deliver blood. Eventually, the overload will damage both the heart and the aorta.

Lesson 3: Blood Pressure Hypertension and Hypotension

- **Video 1: Facts about blood pressure**
- **Sequence Length: 02:01**

The heart is a beating muscle that pumps oxygen-rich blood to the body through a network of arteries and veins. What we commonly call "blood pressure" is the measurement taken when the heart's left ventricle contracts, and blood is forced through the arteries. As the blood travels from the heart, it exerts pressure against the walls of the arteries. This is referred to as blood pressure. Blood pressure is used to evaluate the force and amount of blood being pumped from the heart as well as the flexibility and condition of the arteries. There are two components of a blood pressure measurement. The first is the systolic pressure, which is recorded when blood pressure is at its maximum during contraction of the left ventricle. The second component is diastolic pressure. This measurement is obtained when the blood pressure is at its lowest point when the heart is at rest between beats. The combined measurement is read as the systolic pressure over the diastolic pressure. Abnormally high pressure within the arteries is called hypertension, or high blood pressure. Hypertension is usually diagnosed when blood pressure measurements are higher than 140 mmHg systolic and 90 mmHg diastolic on three separate occasions. Blood pressure levels between 120/80 and 139/89 are known as prehypertension and these patients should be monitored regularly. Hypertension is linked with many medical conditions such as atherosclerosis, congestive heart failure, stroke, heart attack, and kidney damage to name a few. If left untreated, hypertension can seriously damage the heart and blood vessels. The good news is that patients with hypertension can usually control their disease with medication and with changes to diet and lifestyle.

- **Video 2: Medical Advice about blood pressure**
- **Sequence Length: 05:06**

My name is Brian Williams.I'm the professor of medicine at the University of Leicester and the University Hospitals of Leicester NHS Trust.Under normal circumstances, a normal blood pressure in an adult is less than 120/80.If your blood pressure is persistently elevated,and it's the persistent elevation which is important,

then it can cause damage to blood vessels, the kidneys, the heart and the brain.That's why we're interested in detecting people with a high blood pressure.We call the high blood pressure hypertension.About 25 per cent or one quarter of all adults have high blood pressure that might benefit from treatment.Once you get to the age of about 60,

then about half of all adults have high blood pressure,so it's quite a common problem that gets more frequent with ageing.As a doctor I often get asked by patients what causes it.Well, in about 90 per cent or nine out of ten cases,we can't identify a cause,

it's just that your blood pressure tracks at a slightly higher level than what would be ideal.In most cases we simply identify it and treat it.One of the big problems about high blood pressure is that it really doesn't cause any symptoms at all.That creates a

problem for us in medicine because if you don't have symptoms,the only way we can detect it is by routine screening.And that is why having your blood pressure measured by your doctor is really part of the routine examination your doctor will do when he has the opportunity to see you perhaps about another illness, or he may call you in to have a check periodically for blood pressure.The other thing I would say is that if your doctor measures your blood pressure or you measure it yourself and it's high,don't be alarmed by that because quite often the second time or third time it's measured the blood pressure falls to a normal value. Quite a lot of us get a slightly high blood pressure when we have our blood pressure measured for the first time.There are two approaches to treatment.The first are things that you can do yourself. We know that if you have a diet that is high in salt, for example, some people are particularly sensitive to salt and their blood pressure will rise.So a diet that has a reduced level of salt may help lower your blood pressure.Also because blood pressure is associated with increased risk of cardiovascular disease,if you have high blood pressure we would often recommend a number of lifestyle changes to try and reduce your blood pressure and your risk.Inevitably we would recommend that you stop smoking if you smoke.

Inevitably we would recommend that you try and maintain your body weight as an ideal body weight by taking some regular exercise.If you drink alcohol, as many people do,that's not a problem if you have high blood pressure,but if you drink too heavily it can put your blood pressure up,particularly binge-drinking, which can produce a surge in blood pressure.So we would recommend that you have a sensible and moderate alcohol intake. In terms of diet itself,we would recommend that you eat the usual vegetables and try and reduce the amount of fat in your diet,all of which will be important in reducing your overall cardiovascular risk.We have a number of medications available. Most of them need to be taken once a day. Your doctor will select the medication that is best suited to you based on your overall profile and your age, etcetera.Another question that I often get asked, particularly with a younger patient with high blood pressure, is whether or not it runs in families.Well, there is no doubt that if your parents have high blood pressure, on average you have a slightly higher risk of developing high blood pressure. So if your mother and father have high blood pressure, make sure you get your blood pressure checked.In many cases it will be normal but in some cases you may have inherited some of these unknown factors

that give rise to an elevation in blood pressure that appear to be genetically determined.So in terms of further advice, if you've recently had your blood pressure measured as a one-off or you've measured it yourself at the supermarket and found it a bit high, I would say this.If it's the first time it's been measured it will need to have repeated measures by your doctor or the nurse in your doctor's surgery just to find out where it levels off at and to see whether it's persistently high.If it is persistently high, as I've discussed, lifestyle changes can make a major impact on your blood pressure,

particularly maintaining an ideal body weight, moderating your alcohol intake and trying to avoid foods that contain too much salt in the diet.If that doesn't work, and it doesn't for everybody, then you may need drug treatment, but I would like to reassure you that these days the drugs that we use are really very well tolerated and they are incredibly effective at controlling blood pressure and, importantly, in reducing the risk

of stroke and heart disease later in life.

- **Video 3 :The causes and the treatment of hypertension**
- **Sequence Length: 07:47**

High blood pressure is something we have all heard of as a term. This is likely because every other health ad on TV seems to be one aimed at treating high blood pressure. While high blood pressure itself is a big problem that many times doesn't have an identifiable cause, in other instances a reason for its existence in the body is present. These causes, and the causes for low blood pressure, are what this lesson will be about.

Hypertension: Causes and Treatment

High blood pressure - a systolic pressure of 140 mmHg or more or a diastolic pressure of 90 mmHg or more - is formally known as hypertension. If you didn't know, a reading of 120/80 mmHg is optimal. Systolic blood pressure, the top number, refers to the pressure at the time when your heart contracts, whereas diastolic blood pressure, the bottom number, refers to the time at which your heart relaxes and fills back up with blood. Since the contraction of the heart forces a lot of blood out into circulation, it makes sense that systolic blood pressure is higher than diastolic blood pressure. At any rate, let's examine the potential causes for hypertension and why, physiologically speaking, they cause this result.

Kidney disease is one potential cause of increased blood pressure. The kidneys help to excrete water out of the body by using the sodium ion. Sodium is that stuff found in table salt your doctor warned you about. If the kidneys are sick and they don't excrete enough sodium and water, this causes lots of fluid to remain in the blood vessels, and this increases blood pressure. It's sort of like sticking a finger into an open hose, preventing the outflow of water. This will raise the pressure inside the hose.

Problems in the arteries of the body can cause increased blood pressure. If stenosis, the narrowing of an important artery, occurs, then blood begins to back up in the arterial circulation, leading to hypertension again. Again, go back to our poor, abused hose. If you clamp down on a portion of the hose, the pressure will rise upstream from that area.

Cancer can also lead to hypertension. One notable and dangerous form of cancer, called a pheochromocytoma, releases hormones, such as norepinephrine, which cause the arteries to constrict. If the arteries constrict, this raises the blood pressure. You know that if you were to take an inflated balloon and squeeze it with both hands, the pressure would rise inside the balloon - so much so that it may actually pop. Well, the signals released by this tumor cause the blood vessels to squeeze down on themselves, raising the blood pressure within them.

Other things that can cause hypertension include endocrine disease. For instance, hyperaldosteronism is a condition where excess aldosterone is produced. This leads to increased sodium and water retention by the kidneys, raising the blood pressure once again. In essence, the body tries to 'hold it in' - the fluid, that is - like you may have to 'hold it in' on a long car ride.

Another cause of hypertension is hyperthyroidism, which is another endocrine disease that produces too much thyroid hormone. This hormone stimulates the heart to increase cardiac output. If the volume of blood the heart pumps out increases, then blood pressure rises. In this case, it's like turning the faucet to full speed, increasing the amount of water flowing out. Overall, chronic high blood pressure anywhere in the body causes direct damage to, scarring of, and weakening of blood vessels, with subsequent further repercussions as a result of that in each specific location and organ system thereafter.

Anyways, you can clearly appreciate the multitude of things ranging from kidney dysfunction to anatomical problems to endocrine gland disease that can cause hypertension. While treating the underlying cause, if one is found, of hypertension is important in ensuring longevity in a person, we also need to treat the hypertension itself, especially if we don't find a cause for it. Options for treatment include, but aren't limited to:

ACE inhibitors, which are angiotensin-converting enzyme inhibitors, drugs that help to relax blood vessels. By relaxing the blood vessels, we widen them. Widening the blood vessels allows for blood pressure to decrease.

Another option is diuretics, drugs that promote the formation of urine and therefore excretion of water out of the body. So, if we have too much fluid in the blood vessels, we can force the kidneys to urinate out as much fluid as possible to decrease the blood pressure.

Lesson 4: Heart Attack,Cardiac Arrest and Heart failure

- **Video 1: Heart Attack**
- **Sequence Length: 03:29**

A heart attack is also called a myocardial infarction or MI. It occurs when a blood vessel that feeds the heart muscle becomes blocked. Blood flow stops to a part of the heart. If treatment is not done right away, this part of the heart muscle dies. A scar forms in this part of your heart. Blockage may occur from: fatty deposits called plaque, a spasm in the blood vessel or a blood clot.

Signs of a Heart Attack: Pain or pressure in the middle of your chest, arm, jaw, shoulders, neck or stomach. It may spread from one place to another. Feeling of tightness, crushing, aching, choking, squeezing, burning or heartburn occurs both during activity and at rest lasts for more than 15 minutes: sweating ,shortness of breath, weakness ,nausea or vomiting ,feeling scared,dizziness.

- **Video 2: Comparison between heart attack and cardiac arrest**
- **Sequence Length: 03:25**

Hi, I'm Pilar Gerasimo, with a Bottom Line Expert report on heart attacks. I'm here today with Dr. Suzanne Steinbaum, director of Women's Heart Health at Lenox Hill Hospital in New York City.

Dr. Steinbaum, I notice that in the movies, there are these incredibly dramatic events.You know, people have heart attacks and they clutch their chest, they fall to the floor, they die instantly. But in real life, I understand that that's not actually the way it happens. Can you tell us a little bit about what does it actually look and feel like to have a heart attack?

It's not always that Hollywood heart attack. There are often more subtle signs. Definitely chest pain or pressure is the most common symptom people have, but it could also be shortness of breath, fatigue, nausea, back pain, jaw pain, vomiting, even flulike symptoms, so don't exactly expect that Hollywood heart attack.

You just described a whole bunch of symptoms, many of which could be everyday ailments. It might be indigestion—I ate something too spicy... or I'm coming down with the flu. How do I differentiate between these every day things and something that could be much more dramatic?

When you think about what a heart attack is—which is actually lack of oxygen to the heart muscle—that's when you get the symptoms. So if it is happening with exertion and with really exercising and then if it is relieved with rest, think about your heart. If you have indigestion, you take something for your stomach and it goes away, so it's probably not your heart. If you have pain, you take an anti-inflammatory and it goes away, again, probably not your heart. But if the symptoms come back, you really should not dismiss it. And think heart first! It is better to be wrong than to be sorry.

So I know that there's sometimes confusion about the difference between a heart attack and cardiac arrest. Could you explain the difference to us?

Cardiac arrest is truly sudden death, and there's nothing we can do about it. When someone has a heart attack, it's damage to the heart muscle. We can intervene...we can open blood flow of that artery to the muscle...and we can actually prevent people from having heart damage. So it's a very important distinction. One there is nothing we can do about, unless maybe if it is witnessed and we can do CPR. But for people having a heart attack, it's about intervention, getting to the doctor, getting to the hospital as soon as possible.

The bottom line on heart attack symptoms is that they often disguise themselves as other ailments, but if you're dealing with symptoms that are being made worse by exertion and aren't responding to relatively simple treatments and remedies for things like indigestion or flu.

- **Video 3: Cardiac Arrest**
- **Sequence Length: 01:32**

Cardiac Arrest also called: Sudden cardiac death.The heart has an internal electrical system that controls the rhythm of the heartbeat. Problems can cause abnormal heart rhythms, called arrhythmias.

There are many types of arrhythmia. During an arrhythmia, the heart can beat too fast, too slow, or it can stop beating.Sudden cardiac arrest occurs when the heart develops an arrhythmia that causes it to stop beating.This is different than a heart attack, where the heart usually continues to beat but blood flow to the heart is blocked.

There are many possible causes of cardiac arrest. They include coronary heart disease, heart attack, electrocution, drowning, or choking. There may not be a known cause to the cardiac arrest.

Without medical attention, the person will die within a few minutes. People are less likely to die if they have early cardiopulmonary resuscitation (CPR) and defibrillation. Defibrillation is delivering an electric shock to restore the heart rhythm to normal.

- **Video 4: Congestive Heart Disease**
- **Sequence Length: 03:01**

With heart failure, also called congestive heart failure, the heart muscle is weakened and does not pump as strong as it should. The blood flow slows and fluid can build up in your lungs or other parts of your body. This does not mean that your heart has stopped pumping blood. Because heart failure does not go away, you will need to learn how to manage your condition.

Causes of Heart Failure:heart disease, high blood pressure, heart valve problems, lung diseases,an infection or virus, heavy alcohol or drug use,heart problems at birth,

thyroid or kidney disease.Take your medicines as ordered by your doctor. Weigh yourself every morning at the same time. Keep a record of your daily weights. Limit salt or sodium in foods and drinks. Pay attention to how you are feeling. Exercise each day, but rest as needed. Put your feet up to reduce ankle swelling. Keep your doctor appointments. Limit your daily liquids if ordered by your doctor.

Lose weight if you are overweight. Stop smoking. Avoid alcohol. Get the flu vaccine each year. Talk to your doctor about the pneumonia vaccine.Call your doctor right away if you: Gain 2 pounds or 1 kilogram in a day or 3-5 pounds or 1-2 kilograms in 5 days. Have swelling in your legs, feet,hands or abdomen or feel that your shoes, waistband or rings are tighter. Feel short of breath. Use more pillows when you sleep or need to sleep in a chair. Cough at night or have increased cough or chest congestion. Are more tired or weak. Have a poor appetite or nausea. Feel dizzy or confused. Urinate less often.

- **Video 1:Types of Stroke**
- **Sequence Length: 01:58**

Do you know that every year more than 15million people worldwide have a stroke, of these 5 million recover, 5 million die and 5 are left disabled.

But what exactly is a stroke.The brain like other parts of the body needs oxygen which it gets from blood.A stroke happens when the blood flow to the brain is cut off.When brain cells are deprived of oxygen they become damaged and the symptoms that follow accord the stroke.As the brain controls the whole body,the symptoms of a stroke can be wide ranging.depending on which part of the brain are affected.If the stroke occurs here, it would cause a drooping face. Here weakness in the arms or legs or here difficulty speaking.Other symptoms can happen too, like changes to vision, loss of balance,confusion and memory loss .The effects might be very noticeable but a more oftensevere and disabling.Sometimes these changes can be reversed if treatment is started very early.

Strokes are put into two groups depending on the problem in the blood vessel supplying the brain. They can only be a blockage called an ischemic stroke or a bleed called a haemorrhagic stroke. The majority of strokes are blockages.It is important to identify early on which sort of stroke is happened.As each has a very different treatment.Blockage strokes are commonly caused by the built up of fatty material in blood vessels.This fatty build up may lead to a clot which blocks blood supply just like in the heart attack ,this is why a stroke is thought of as a brain attack.

Bleeding strokes happen when a blood vessel bursts suddenly causing blood to leaking all around the brain.Sometimes stroke symptoms disappear in less than 24 hours .This is called a mini-stroke or TIA(Transient Ischemic Attack).If the patient has a TIA daily medications are started and continued life long to help prevent further episodes.

The effects of stroke can be disabling but given time, the brain can slowly adapt to recover some previously lost abilities.This is why,stroke rehabilitation is so important.

- **Video 2: Ischemic stroke vs haemorrhagic stroke**
- **Sequence Length: 02:01**

There are two main causes of a stroke. 85 % are ischemic attack.In a healthy brain arteries carry oxygen to the brain. When an ischemic stroke happens a clot blocks an artery.This may be caused by a Cerebral thrombosis, when a clot forms in a main artery to the brain. A Cerebral embolism when a blockage caused by blood clot air bubble or fat globule forms in a blood vessel somewhere else in the body and is carried in the bloood stream to the brain or a blockage in a tiny blood vessel deep within the brain.The brain needs nutrients and oxygen that the blood carries, when a blockage occurs brain cells can become damaged or die.The second type affecting about 15% is called haemorrhagic stroke.Instead of a blockage , there is a bleed into the brain from an artery or a blood vessel .This may be caused by Inracerebral haemorrhage ,

when a blood vessel bursts within the brain or subarachnoid haemorrhage, when a blood vessel on thesurface of the brain bleeds into the area between the brain and the skull.A bleed can lead to pressure within the brain as well as starving it of the essential nutrients and oxygen it needs.Both result in death or damage to brain cells.

- **Video 3: Stroke: Risk factors and preventive measures**
- **Sequence Length: 01:43**

A stroke occurs when the blood flow to the brain is decreased or stopped. The blood flow can be blocked from a blood clot, plaque or a leak in a blood vessel. Sometimes the blood flow to the brain is blocked for a brief time. There will be signs of a stroke, but the signs go away in minutes to hours. This is called a TIA or transient ischemic attack or “mini stroke”. This is a strong warning that there is a problem and a stroke could occur in the future. When the blood flow to the brain is blocked causing permanent damage, it is called a stroke. Tests can be done to find the type, location and cause of the blockage to the blood flow of the brain. Signs : the effects of a stroke depend on the location and amount of damage to the brain.Signs are sudden and may include : Numbness, tingling or weakness in the face, arm or leg, often only on one side of the body. Confusion or trouble understanding. Problems speaking. Problems seeing out of one or both eyes. Dizziness or trouble with balance, coordination or walking. Sudden severe headache with no known cause.

Risk factors ;You are at risk for a stroke if you have high blood pressure,diabetese, high blood cholesterol,heart disease or prior stroke,are overweight, are inactive or do not exercise,have a lot of stress, eat foods high in cholesterol and fat, smoke or use tobacco, drink too much alcohol.To prevent a stroke ;treat high blood pressure, diabetese, high cholesterol,heart disease if presenr,quit smoking,exercise,eat a healthy diet and lose weight if you are overweight, limit alcohol to 1-2 drinks a day, Avoid falls and injuries

Lesson 6: Heart Test: Electrocardiography (ECG/EKG)

- **Video :The electrical activity of the heart**
- **Sequence Length: 03:45**

The cardiac conduction system consists of the following components: The sinoatrial node, or SA node, located in the right atrium near the entrance of the superior vena cava. This is the natural pacemaker of the heart. It initiates all heartbeat and determines heart rate. Electrical impulses from the SA node spread throughout both atria and stimulate them to contract.

The atrioventricular node, or AV node, located on the other side of the right atrium, near the AV valve. The AV node serves as electrical gateway to the ventricles. It delays the passage of electrical impulses to the ventricles. This delay is to ensure that the atria have ejected all the blood into the ventricles before the ventricles contract.

The AV node receives signals from the SA node and passes them onto the atrioventricular bundle. AV bundle or bundle of His.

This bundle is then divided into right and left bundle branches which conduct the impulses toward the apex of the heart. The signals are then passed onto Purkinje fibers, turning upward and spreading throughout the ventricular myocardium.

Electrical activities of the heart can be recorded in the form of electrocardiogram, ECG or EKG. An ECG is a composite recording of all the action potentials produced by the nodes and the cells of the myocardium. Each wave or segment of the ECG corresponds to a certain event of the cardiac electrical cycle.

When the atria are full of blood, the SA node fires, electrical signals spread throughout the atria and cause them to depolarize. This is represented by the P wave on the ECG. Atrial contraction , or atrial systole starts about 100 mili-seconds after the P wave begins.
The P-Q segment represents the time the signals travel from the SA node to the AV node.
The QRS complex marks the firing of the AV node and represents ventricular depolarization:
-Q wave corresponds to depolarization of the interventricular septum.
-R wave is produced by depolarization of the main mass of the ventricles.
-S wave represents the last phase of ventricular depolarization at the base of the heart.
Atrial repolarization also occurs during this time but the signal is obscured by the large QRS complex.

The S-T segment reflects the plateau in the myocardial action potential. This is when the ventricles contract and pump blood.

The T wave represents ventricular repolarization immediately before ventricular relaxation, or ventricular diastole. The cycle repeats itself with every heartbeat.

- **Video 1:Beta Blockers**
- **Sequence Length: 01:57**

The heart is a muscle that contracts in rhythmic sequence for the duration of our lifetime. Each beat is stimulated by an electrical signal that is generated by the heart's conduction system. A normal heart beats 60 to 100 times per minute. Sometimes, a problem with the conduction system causes the heart to beat too fast, or too slow, or to have an erratic or irregular beat. Part of the heart's conductive system includes the transmission of molecules, called neurotransmitters, from a neuron to the cardiac muscle cells. Specific chemicals like epinephrine and norepinephrine are released from the neuron and bind to beta-receptors in the membrane of heart cells. Once bound, these hormones stimulate the beta-receptors, making the heart work harder. This causes the heart rate and blood pressure to increase. If left untreated, high blood pressure can seriously damage the heart and blood vessels by adding to their workload. This can result in congestive heart failure, stroke, heart attack, kidney damage, aneurysms, or even death. Beta-blocking medications work directly on the receptor cells. These drugs block the epinephrine and norepinephrine chemicals from binding to the beta-receptors. This prevents the heart rate from going too fast, reducing blood pressure and helps to stabilize the electrical activity of the heart. Beta-blockers may be used to treat several conditions including cardiac arrhythmias, angina, and high blood pressure. As with all medications, adverse effects may develop while taking this medication. Always consult a doctor before starting treatment or making any changes to your current therapy.

- **Video 2: Ace Inhebitors**
- **Sequence Length: 02:39**

The heart is a beating muscle that pumps blood to the body through a network of arteries. The force of the blood is constantly putting pressure on the inside walls of blood vessels. This is known as "blood pressure". Blood pressure is measured to evaluate the force and amount of blood being pumped from the heart, as well as the flexibility and condition of the vessels. Many different factors can affect blood pressure including: - the levels of hormones in the body - water and salt content - and the condition of the heart, kidneys, nervous system, and blood vessels. Blood pressure is closely regulated by chemicals in the body that change the diameter of the blood vessels depending on the needs of the body: widening to let more blood flow or narrowing to allow less blood to flow. For example, a chemical called angiotensin I can bind to another substance in the body called an Angiotensin-Converting Enzyme, or ACE. Once bound, a new chemical called angiotensin II is created. Angiotensin II

binds to receptors on the surface of vascular smooth muscle causing these blood vessels to narrow, thereby increasing blood pressure. Hypertension, or high blood pressure, is a condition where blood pressure remains abnormally high. If left untreated, hypertension can seriously damage the heart and blood vessels by adding to their workload. This can result in congestive heart failure, stroke, heart attack, kidney damage, aneurysms, or even death. Many factors can cause blood pressure to remain elevated, specifically conditions that cause narrowing of blood vessels. To treat hypertension, a class of medications called ACE inhibitors may be prescribed. ACE inhibitors regulate blood pressure by inhibiting, or blocking the action of ACE. This prevents the chemical conversion of angiotensin I to angiotensin II, thereby reducing blood vessel narrowing. Overall, this can cause the blood vessels to relax, lowering blood pressure and making it easier for the heart to pump blood effectively. There are several different brands of ACE inhibitor medications. As with all medications, adverse effects may develop while taking this medication. Always consult a doctor before starting treatment or making any changes to your current therapy.

- **Video 3: Anti-Coagulants**
- **Sequence Length: 02:24**

The circulatory system is made up of the heart and blood vessels that carry blood throughout the body. In a healthy person, blood flow is normal, freely delivering oxygen and nutrients to all cells in the body. Coagulation, or blood clotting, is necessary after surgery or certain injuries. When a blood vessel is cut or damaged, a clot forms to stop bleeding. In the liver, vitamin K plays a major role the body's ability to form blood clots. Once Vitamin K enters a liver cell, it binds to a chemical which activates it. The activated vitamin K then helps other chemicals to be released into the bloodstream to help form blood clots. Normally, the blood clot naturally breaks down as the injury heals. Sometimes abnormal clotting can occur, causing the clot to grow until it completely blocks the vessel. Or a piece of the clot can break away and travel in the bloodstream until it becomes trapped in a smaller blood vessel. This could lead to a pulmonary embolism, heart attack, stroke, or other problems. Anticoagulants are drugs that prevent blood clots and may be given after surgery or other medical treatments. Anticoagulants work by binding to the chemical that activates the vitamin K. As a result, the vitamin K is unable to alter the chemicals necessary for blood clotting prior to their release. While anticoagulants may prevent clots from growing and prevent new clots from forming, they do not dissolve existing blood clots. Anticoagulants are sometimes referred to as blood thinners, although they do not actually thin the blood. These drugs may be used as treatment for various blood vessel, heart, and lung conditions. Patients taking anticoagulants may bruise or bleed more

easily. Be certain to discuss your diet and other medications you are taking with your doctor before beginning any new therapy.

- **Video 4: Diuretics**
- **Sequence Length: 01:57**

The circulatory system is made of a network of vessels, each of which carries blood from the heart to other parts of the body. Pressure inside each vessel helps blood flow and this pressure is affected by the amount of water in the blood. The kidneys work to keep the amount of water in the blood in balance. Each kidney contains millions of nephrons, which are the basic filtering units of the kidney. The renal corpuscle is the part of the nephron that filters salt, water, and waste products out of the blood to create a fluid called filtrate. As the filtrate continues through the tubes of the nephron, most of the salt in the filtrate returns back into the blood. The salt acts as a magnet for the water, causing it to also return to the blood. The remaining fluid is then released as urine. However, sometimes too much salt and water return to the blood. As a result, the fluid volume in the blood vessels may increase, resulting in a condition known as high blood pressure. High blood pressure can strain organs which contain large supplies of blood vessels, including the heart, kidneys, and the eyes, eventually causing irreversible damage to these areas. Diuretics are drugs that help decrease blood pressure by lowering the volume of blood. They can work in the kidneys by blocking the exit of salt from the filtrate. As a result, more salt and water remain in the urine as it is removed from the body. This causes the volume of blood to decrease, which lowers the overall pressure. There are several types of diuretics which act in different parts of the kidneys. Diuretics are most commonly prescribed for people who have high blood pressure, edema and congestive heart failure, all of which are disorders that are caused by the presence of extra fluid in the body.

Lesson 8: Career Profile of Cardiologists and Heart Surgeons

- **Video 1: "Behind the Scrubs"**
- **Sequence Length: 04:36**

Whenever you think about the field of medicine if you have been in the art for a while, you appreciate that they were calling and most of us at some points of our lives just felt the voice saying come learn about your body, the body of others you can be of service of use. I remember when I was 7 years of age, waiting a line in an Ice-cream shop in Wilmington, Delaware and my dad was with me and there was a kid who was about three or four years older than me who was first in line so my dad was making a conversation; what you want to be when you grow up. The kid said : "I don't know I'm ten."This is not an unreasonable response, my father turned to me and said : "I don't care what you do in life but I never want to hear that answer." He said:
" You have to always know what you want to be, you can change your mind but you got to have something you are aiming at otherwise you will be flowing around aimlessly."So he asked me what I want to be and I said:"I think I want to be a doctor."This has been the very smart decision that I've made that has never changed.
There are many people who have inspired me my father, of course like most people with a good mother. My father-in-law who was a very renowable heart surgeon who was in the first heart transplant team in America. He had insights into part of life of science and religion together which I always found a much of a blessing to do but also a very wise pathway to try to emulate.My sport teacher of high school Steve Hyde who taught me a lot about human nature and how you deal with conflict. Sport was very important for me for that reason because I learnt how to fall and how to get up back again. learnt how to lose and I don't like it. I learnt how to deal with emotions I felt and I can lead. I chose a field which has high risks high rewards and I count my blessings that someone has created heart surgery because I don't think any other field would appeal to me, or capture my attention but also allow me to excell in. At the very core I think, I was born to be a heart surgeon. I don't mind making decisions I like making decisions quickly which is not always a good thing in some specialities. I demand immediate retifications to terrible things doing it now.And I also did not mind the pressure .they go along with fears.I did not mind how to deal with failure.And I think about the lessons I have learnt in my life that was probably the most important

about. I've been blessed by having wonderful teachers throughout my life and that one of the reasons why I love to teach now. Part of what I do on the show is teaching.I have learnt a lot in my show.I learnt a lot more about how to hear people how to understand what they are really saying to you.

- **Video 2 : "Dr Oz :A Different Side of the famed Heart Surgeon"**
- **Sequence Length: 05:04**

Upon four years, ABC News cameras were given unprecedented access inside some of the country's best hospitals, the real life stories they are honoured upon a new eight part series called "New York Med" documenting the miracles of cuttundedge medicine.Now, from this series we bring in the story of one doctor, no stranger to this spotlight. The famous talk show host Dr.Oz also a world renowned cardiac surgeon.

You propably know Mehmet Oz, the hugely popular TV doctor and the host of his own show, but this global celebrity has another job, his true passion .He 's still one of the leading heart surgeons in the world. Dr.Oz still sees patients, still operates almost every week.

"A lot of folks don't realize that I still practice medicine," he said.

Born in Cleveland to Turkish parents, Oz said he felt a natural attraction to medicine.

"There are very few things in life that I could have done successfully," Oz said. "Heart surgery is probably one of the few that I could have chosen". It demands immediate decision-making ability. It demands... courage to take changes because someone has got to make a decision."

Oz also admitted that approval from his father played a role in his decision to become a surgeon. "My father came from a very poor family in central Anatolia in the Koran belt of Turkey," he said. "Came to this country without a single word of English, really, under his belt, educated himself, pulled himself up and became a surgeon. Deep down inside of me, there's a craving to show him, my father, that I'm worthy, that I'm a man."

Perhaps that is why surgery alone wasn't quite enough for Oz. While he recognized that he loved heart surgery, the doctor said he also wanted to explore other spaces.

"I love teaching but I also felt that my hands were tied often times because I could only do that one at a time in the hospital, one patient by one patient," Oz said. "I think my purpose in life was to talk to talk to people, whether it was in an operating room, a hospital suite, in the parking lot as they go home or on my television set, it's all the same."Despite his success, both in the operating room and in the TV studio, Oz said he still views himself as a doctor first."I never thought of myself as a celebrity and I don't say that with false modesty," he said. "Surgeons are not modest people. We are all about controlled arrogance. We have to believe with our hearts that we can take you into an operating suite, take a band saw to your sternum, open it and still help you."

Diana Cepada is one of the thousands of people he saw.Diana Cepeda takes the subway between her Brooklyn home and her Times Square office. Up until a year ago, it was a daily commute that could have killed her."I was born with heart disease," she said.In and out of cardiologists' offices since she was eight years old, Cepeda's heart condition worsened last year."As I got older, my aortic valve started deteriorating, and my mitral valve had a little pinhole in it," she said.When she was 53, her failing heart led her to New York-Presbyterian Hospital's Columbia campus to visit one of the best-known heart valve surgeons in the country -- Dr. Mehmet Oz, the celebrity doctor famous for his appearances on Oprah Winfrey's show and his own daytime talk show.

"When I sent all my films to his office I was just praying that I would get him," Cepeda said. "I really didn't want anyone else, just him."When Cepeda eventually got an appointment with Dr. Oz, he told her she needed to have her aortic valve replaced soon."This is not a good way of fixing it," he told her. "This valve on you is stuck. It's like a door… the hinges aren't working so it doesn't open all the way, it doesn't close all the way."Not only did Cepeda need surgery soon, but she had to quit smoking."I have never operated on a smoker," Oz said. "It is so disheartening to me to have someone actively hurting themselves when I'm trying to help them. It means they're not committed to the process."Oz is much more than a face on TV. He is one of the most accomplished cardiac surgeons in the world. Before she headed into surgery, Cepeda said she was nervous, but felt very comfortable with Oz. Her family waited anxiously outside the operating room while she went under the knife. During the surgery, Dr. Oz discovered something unexpected -- Cepeda's aortic valve only had

two parts. Normal aortic valves have three parts. It's a defect with which she was born.The surgery was successful and a year and a half later Diana is today leading an active healthy life.“ And you carry the reminder there with you , the scar”,said the journalist. “ When you look at it, what does it mean to you?” “I have a second chance in life and Dr.Oz is my man.”

- **Video 3: “Medical Careers: How to become a cardiologist?”**
- **Sequence Length: 02:01**

Hello, my name is Mark MacBayne, I’m the practice administrator for Hematology/Encology at UCSF(University of California San Francisco) medical centre and I’m here today to talk about how to become a cardiologist.

A cardiologist is a physician who specializes in the heart.The first step in becoming a physician is to go to a college, completing a four yeaar degree program.Typically in science discipline such as biology.However, it is not required to major in science if you choose not to however, you do need to keep in mind to , you will have to do all of the science prerequisites for medical school:2 years of biology, 2years of chemistry, a year of physics and a year of calculus. This is along with your other undergraduate training will prepare you for the MCAT,the medical college admission test.This is a standardized exam used by medical schools to evaluate the applicants.This along with your GPA will be the primary considerations used by medical schools in evaluating applicants, since medical schools are highly competietive, you want to maintain a GPA three point seven or higher during your undergraduate career in order to be a strong candidate.Medical school is an additional four year educational commitment The first two years are typically reserved for didactic instructions in health sciences and the second two years are typically reserved for training in the clinical skills.Upon completion of the four years of medcal school you are a medical doctor.However you are not ready to be a cardiologist. In order to be a cardiologist you must compete a residency in cardiology.This is an additional 6 or 7 years of post graduate training under which you will work with a certified cardiologist learning the particular skills of cardiology.Upon completing your post graduate training you can also go on to do a fellowship which is an additional one or two years

particularly important if you are interested in a career in academic medicine. At this point, you are ready to sit for the board exam and upon passing are a board certified cardiologist ready to practice in the community.

- **Video 4: "Medical Careers: How to become a heart surgeon?"**
- **Sequence Length: 02:32**

Hello, my name is Mark MacBayne, I'm the practice administrator for Hematology/Encology and Adult Bone Marrow Transplant at UCSF medical centre and I'm here today to talk about how to become a heart surgeon.

A heart surgeon is a physician who specializes in cardiothoracic surgery.As with any MD,you must start by first going to college.You will need to obtain a degree from a four year college or university typically majoring in science.This is not required however but if you choose not to major in science ,You must make sure that you take all of those science pre-requisites for medical school being :2 years of biology, 2years of chemistry,a year of physics and a year of calculus.Towards the end of your undergraduate career,you need to take what's known as the MCAT or the medical college admission test.This is a standardized exam that is used by medical schools to evaluate the candidates applicantion for medical school entrance. They use this along with your GPA.Medical schools are highly competietive.In fact, most less than a third of those who apply will actually be accepted in any given year.Therefore, it is very important to maintain a strong GPAand do well on the MCAT exam.Medical school itself is an additional four year educational commitment The first two years are typically reserved for didactic instructions in the health sciences and the second two years are typically reserved for training in clinical skills. After completing your four years of medcal school you are an MD , however you are not quite ready to be a heart surgeon. In order to become a surgeon any type of physician you must compete what is known as a residency.Residency programs can vary in length .Surgical residency is typically being longer.Asurgical residency will be a minimum of six years and for heart surgery,it will often be eight years or more. This is formal training past your medical school education. During these years you will first learn how to become a surgeon and second how to become a heart surgeon.After you have completed your

residency in cardiothoracic surgery, many will go on to do a fellowship which is an additional one or two years of additional post graduate training.

After completing all of your post- graduate training you are ready to sit for the board exam as a cardiothoracic surgeon and upon passing you are a board certified cardiothoracic surgeon ready to practice in the community.

ABSTRACT

The primary objective of this small scale classroom research is to help medical students to speak medical English with ease and clarity, using the audio-visual method,i.e.medical videos and PowerPoints presentations.To examine the possible effects of videos and PowerPoints presentations on the development of the speaking skill of medical students, a quasi-experimental study was carried out at the faculty of medicine with the third year post graduate medical students.Therefore, different research instruments were used ; in addition to a pre-and post- speaking tests whose content was purely medical were administered to all participants, to identify their speaking level before and afer experimentation and to test and determine the effectiveness of the audiovisual method.

Key-words: *English for Academic Medical Purposes, audio-visual method, medical videos, PowerPoints presentations, speaking skill, course design.*

RESUME

L'objectif principal de ce travail de recherche est d'aider les étudiants de médecine à parler l'anglais médical avec aisance et clarté en utilisant la méthode audio-visuelle, c'est à dire l'utilisation des vidéos médicales et des présentations PowerPoint. Afin d'examiner les effets des vidéos et des présentations PowerPoint sur le développement de la production orale de l'anglais médical, une étude quasi-expérimentale était menée à la faculté de médecine avec les troisièmes années résidents. Pour cela, plusieurs instruments étaient employés et des prés et post tests de l'expression orale dont le contenu est purement médical étaient utilisés pour identifier le niveau de l'oral de tous les participants avant et après l'expérimentation et pour tester et déterminer l'efficacité de la méthode audio-visuelle.

Mots Clés: *anglais médical académique, la méthode audio-visuelle, vidéos médicales, présentations PowerPoint, expression orale, conception d'un programme .*

ملخص

الهدف الرئيسي من هذا البحث هو مساعدة طلاب الطب على التحدث باللغة الإنجليزية لأغراض طبية بكل سهولة ووضوح وذلك باستخدام طريقة سمعية بصرية ، يعني أشرطة فيديو طبية وعروض تقديمية باور بوينت. لدراسة الآثار المحتملة لأشرطة الفيديو والعروض التقديمية باور بوينت على تطوير مهارة التعبير الشفهي لطلاب الطب، تم إجراء دراسة شبه تجريبية في كلية الطب مع طلاب الطب للسنة الثالثة لما بعد التدرج. و لذلك ، تم استخدام أدوات مختلفة كما تم اجراء اختبارات شفهية قبلية وبعدية ذات محتوى طبي بحت لجميع المشاركين بغية تحديد مستواهم قبل و بعد اجراء التجربة ولتحديد فعالية الطريقة السمعية البصرية أيضا. .

الكلمات المفتاحية : الإنجليزية لأغراض التخصص الاكادمي الطبي ، الطريقة السمعية البصرية ، أشرطة فيديو طبية ، عروض تقديمية باور بوينت ، مهارة التعبير الشفهي، تصميم مقرر دراسي .

THESIS SUMMARY

THESIS SUMMARY

Medicine is developing day after day at an incredible pace, especially in developed countries. Many life-threatening diseases that were incurable in the past are nowadays treatable thanks to new tested medications, continuous international medical research and amazing medical technology innovations. Therefore, Algerian medical professionals who are anxious to quench their thirst for up-to-the minute-research published in English or who have a burning desire to present or publish their research findings beyond the boundaries of Algeria and reach a wider readership need a sound knowledge of medical English because English is the vehicle of transnational medical communication.

Indeed, in today's world of technology facilities access to information is easier, faster and cheaper. The internet as a treasure trove of information and knowledge and as a virtual space of exchange for the whole globe is favouring the need of learning and teaching English. Thus, students who wish to keep abreast of the latest news in their disciplines and to keep informed about the cutting edge research published in English need to learn English.

In this sense a good command of English is a golden key to the gate of knowledge and inadequate and poor command of English might constitute a real barrier preventing the learners from enjoying the pleasures of advancing ahead in their specialities.

The duty of English teachers is to find ways that help students to better learn English. Thus, the language class for the English teacher is like a laboratory for the biologist or the scientist. It is there that the teacher experiments old and new teaching methods. It is there that she/ he tries different

teaching materials and tasks to achieve the desired results. It is there that she/ he observes the good and the bad effects of her/ his teaching methodology, the expected and the unexpected learning behaviours, outcomes and results .Thus, like the scientist, the English teacher learns by trial and error.

In this respect, the researcher as a novice medical English teacher embarking in the medical field about nearly four years has tried a variety of methods to facilitate the learning of medical English. Indeed, the former medical English courses with their merits and shortcomings were valuable experiences and the main source of inspiration of the present research whose prime concern is to try out the use of the video and the power point presentations to teach medical language and to study the possible effects of audio-visual instruction on the development of medical students' speaking skill.

As a matter of fact, the researcher holds the belief that speaking medical English with ease and clarity is not a far reaching goal if appropriate teaching aids like the audio- visual materials are well exploited in class alongside meaningful teaching tasks.

In fact, this research is not the first one to question the effectiveness of audio-visual materials to teach English. Undoubtedly, countless studies and researches have been carried out about the use and the effectiveness of audio-visual aids in English language classes and most studies proved successful. What is different in this study is the content of the audio-visual aids which is purely medical, the purpose of instruction and the participants involved in this study. In other terms, while in general English classes the focus is usually on teaching or rising awareness about the target culture, the aim of this study is to use the video and the power point presentations to present authentic medical language, to raise awareness about the distinguishing features of spoken medical

English and more importantly to provide and maximize opportunities for practising medical language.

The research thus revolves essentially around one important and broad question: Does the use of audio -visual instruction help medical students to develop their speaking skill?

As this question is too broad, it was necessary to break it down into further questions for the sake of a thorough and a more focused investigation. The sub- questions guiding this small scale classroom research are as follows:

1. What do medical students need to learn to speak medical English in academic settings with ease and clarity?

2. Does the use of audio-visual materials along with meaningful teaching tasks help medical students to develop their speaking skill?

3. Is an audio-visual course more beneficial than a course based solely on chalkboard, texts, worksheets, flashcards and posters to develop medical students' speaking skill?

In response to the research questions, the following hypotheses were put forward:

1. Medical students need to learn and to widen their knowledge of the different linguistic features of medical English mainly grammar, general and medical vocabulary, correct pronunciation as well as a good command of a number of useful structures to switch easily from one medical idea to another and to avoid communication breakdowns .

2. A wise and a judicious use of audio-visual materials along with well-structured speaking tasks may help students to develop their speaking skill significantly.

3. An audio-visual course is probably more beneficial and fruitful than a course based solely on chalkboard, texts, worksheets, flashcards and posters to develop medical students' speaking skill.

To ascertain these hypotheses on practical ground, and to hopefully obtain scientifically accepted answers to the research questions, a quasi-experimental study was carried out at the faculty of Medicine Abou Bakr Belkaid Tlemcen with third year post- graduate medical students.

Prior to the experimentation and as a necessary condition to ensure a sound quasi-experimental study, the participants were divided into similar groups, equal in number and similar in terms of speaking difficulties and actual speaking abilities. In both groups, the overall teaching objectives were the same: to teach medical English and to develop the participants' speaking skill. The only fundamental difference lies in the teaching materials. In one group audio-visual aids were used, in the other they were not used. In the experimental group, teaching was exclusively through the use and the full exploitation of medical videos and power point presentations, whereas in the control group which serves as basis for later analysis , the only teaching aids used were : medical texts , worksheets , flashcards, posters and of course chalkboard.

As for the overall layout of the present thesis, the research problematic is discussed in more depth, in four interrelated chapters.

The first chapter is theoretical. It lays the theoretical foundation for this quasi-experimental study and for the subsequent chapters. It starts off with an overview of the development of English for Academic Purposes and draws a clear distinction between English for General Academic Purposes and English for Specific Academic Purposes. It proceeds then by shedding light on the vital role of Medical English. It also casts light on the development of audiovisual instruction shifting from the use of expensive video cassettes to free and easy to use computer video and power point applications .Greater emphasis is also put on the theoretical principles of course design and the teaching of the speaking skill in academic contexts.

The second chapter is purely descriptive. It is organized in a manner to capture a full picture of the teaching learning landscape. It also casts light on the key elements shaping quasi-experimental research, with a special focus and a detailed description of the selected research instruments used in the fact finding stage namely: speaking tests, speaking self-assessment checklists, interviews, questionnaires and the researcher‘s classroom observation diary. The use of such a variety of tools was definitely necessary to explore the research questions on practical ground.

The third chapter is basically analytical. It is a mixture of quantitative and qualitative analyses of the collected data. Throughout this chapter, the researcher attempts to scrutinize the data gathered during the pre, while and post experimentation phases so as to draw an in-depth comparative study of the experimental and control groups and to confirm or refute the research hypotheses.

The fourth chapter is almost pedagogical in nature. The essence of this quasi-experimental study is embodied in a medical English syllabus suggested for teaching

A glance back at the history of English language teaching in Algeria shows that educational policy makers have always strived to improve the quality of English teaching from middle school to university. The best evidence is the number of reforms undertaken at all levels since the independence.

The last radical reforms came in response to the demands of globalization. The Ministry of National Education has implemented the competency based approach (CBA) at the middle and secondary schools. Thus, the textbooks were changed, new curricula were designed and consequently the national exams the Brevet and the BAC exams were modified accordingly. The purpose of such reforms was to form new generations of learners who are autonomous and competent enough in English.

Likewise to meet the requirements of globalization or the newly established world order, the Ministry of Higher Education and Scientific Research in its continual quest for excellence replaced the classical system with the LMD system in all the EFL departments. The acronym LMD stands for Licence Master Doctorate. It is a literal translation of the acronym BMP, standing for Bachelor-Master-Philosophia Doctor which is a uniform structure referring to the Anglo –American higher education. with a bachelor degree of three years, a two-year masters and a three-year PhD.

The LMD system was an ultimate consequence of globalisation that Algeria like other countries couldn’t escape and was compelled to implement it, to meet the needs of a global academic industry and .to align Algerian higher

education with international systems and standards and to place the Algerian universities on equal footing with their counterparts in developed countries.

Concerning the status of English in the other disciplines or departments, it is worthy to mention that English is introduced as a compulsory subject module in almost all the disciplines. It is included in exact sciences like Maths, Physics, chemistry, telecommunication, computer science, civil engineering, biomedical engineering. It is also taught in Biology and Economics and in their sub fields and it is also included in social sciences like sociology, psychology and political sciences.

As regards medicine, in Algeria, English is not the language of medical instruction. Medical education is carried out only through French. In medicine English has no official place within the medical curriculum neither at graduation nor at post- graduation. In fact, what is really shocking in the faculty of medicine is that first and third year students of pharmacy and first year students of dental surgery have English courses of one hour and a half once a week. However, students of medicine have no English module.

The striking reality is that the Algerian Ministry of Higher Education and Scientific Research acknowledge the importance of English, but officially, in medicine, English is not included in the medical curricula neither in graduation nor in post- graduation. Besides, it is really alarming that despite the widespread use of the twin technologies internet and personal computers and the easy access and availability of internet resources and free English materials for self-study online, Algerian post- graduate medical students at the down of the twenty first century are still struggling to read a medical article or afraid to present their research findings in English academic medical meetings.

Indeed, it would be no exaggeration to say that English mastery is no longer a choice but a must in the age of Information and Communication Technology. Therefore, the mission of English Language teachers or more specifically ESP teachers is to equip medical students with the necessary language skills to join international medical discourse communities and to benefit greatly from medical web-based resources. Thus, Language teachers must look for the most effective teaching methods and medical materials to satisfy medical students' overriding need for effective and efficient medical courses that help them to build up a rigorous linguistic knowledge and reach a satisfactory level of English proficiency so as to broaden further and further their academic medical horizons.

The researcher as a novice medical English teacher very keen to help feverish and inquisitive medical students wishing to learn English to achieve clinical excellence, wondered about the possibility of incorporating audio-visual medical materials in an academic medical English course. The raison d'être of the present small scale classroom research was to try out some medical videos and medical power points retrieved from the net to teach medical students, medical English with a special focus on developing the speaking skill so as to help them speak it with ease, clarity and effoetlessly. Hence, a quasi-experimental study was carried out with third year post- graduate medical students at the faculty of Medicine Abou Bakr Belkaid Tlemcen.

In the present study, the researcher chose neither the pre-experiment design nor the true-experiment. The former is always criticised as the weakest design because it is a single group design which lacks a control group and random sampling of participants. The latter is considered the best design because it embodies all the necessary elements that make an experiment

rigorous, a control group, random selection of participants and random assignment to groups.

The researcher opted for the quasi-experimental research because it is almost impossible to assign medical students randomly to control and experimental groups. Besides, the nature of the research entails the formation of two groups: a control group and experimental group equal in terms of speaking level, that is why quasi-experimental research is the most suited for the purposes of the present study.

To determine cause effects relationships in a quasi-experimental study, the researcher needs to control the experiment as much as possible, so as to focus essentially on the key elements or aspects driving the study and which are usually referred to as “variables”.

In the present quasi-experimental study, the independent variable is the use of audio- visual materials which include:

1- Medical Videos retrieved from u tube and medical websites .Some medical
videos were used in class without any modification while others were modified using some special software to fit the purposes of the lessons.
2- Power point presentations of medical topics developed by the researcher herself for the purposes of instruction.

In experimental studies, the dependent variable, as its name implies is the variable the researcher believes to be influenced by the independent variable. It. is the variable which is not manipulated but rather observed and likely changes,

as the independent variable changes. In the present study, the dependent variable is embodied in the speaking skill as measured with speaking tests.

In the present small scale EAP classroom research, the researcher has opted for a combination of quantitative and qualitative data collection tools: speaking self-assessment checklist, pre and post speaking tests, an interview, a questionnaire and the researcher's classroom observation diary. The ultimate aim of such instruments selection is to try as much as possible to gather enough data so as to tackle the research problematic with great care.

To hopefully, obtain scientifically plausible answers for the research questions that motivate the present study, the researcher after compiling data along the ongoing multi step process of collection, she embarked upon the process of analysis. As described so far, the research data were not gathered at one point of time but rather during three distinctive phases: before, during and after experimentation and through the different instruments outlined in chapter two. In the present chapter which is purely analytical, the researcher went over each phase of this quasi-experimental study to report as faithfully as possible the corresponding research findings. The chapter also includes an inter and intra group analysis

Prior to experimentation, the researcher expected medical students to have a poor speaking level in general English and Medical English alike. Nevertheless, for the sake of ensuring a sound scientific experimental study, all the participants were asked to identify their speaking level via a speaking self-assessment checklist.The layout of this research tool allows the participants not only to determine their entry speaking level and later their exit level but it prompts them to gauge their speaking ability while enrolling in the medical English speaking course as well.

As expected, the results of the speaking self-assessment checklist administered at the outset of the research study ascertained that all the participants' speaking level was low in general English and worse in medical English. Thus, too much work was necessary during the experimental phase to help medical students to make progress as regards their speaking competence. Interestingly, the data gathered through the same speaking self-assessment checklist at the end of the experimental phase yielded relatively a significant progress.

Before proceeding further, it is worthy to pinpoint that this research tool was vital for both the participants and the researcher. It was like a yardstick for measuring the speaking competence all along the experiment. This instrument does not only allow participants to make self-judgements about their alarming and deteriorating

entry speaking level but it raises their awareness about the considerable amount of effort they need to deploy to develop their speaking skill effectively.

Indeed, the participants speaking level improved significantly in both the experimental and the control group after more than seven months of medical English instruction. During those months, the researcher employed a variety of speaking tasks covering all the linguistic features of medical English: English grammar, general vocabulary and medical vocabulary and pronunciation. The researcher notices also the continuous progress of all the participants in both groups and students themselves affirmed it through their speaking self – assessment checklist.

Accordingly, speaking self-assessment checklist findings supports the first research hypothesis which states that: Medical students need to learn and to

widen their knowledge of the different linguistic features of medical English mainly grammar, general and medical vocabulary, as well as correct pronunciation to speak medical English in academic settings with ease and clarity.

In the same vein, the results of the pre speaking test along with those of the structured interview carried out immediately after the entry test revealed that all the participants had serious speaking difficulties in terms of grammar, general vocabulary, medical vocabulary and pronunciation. Moreover, the structured interview shows that all the participants without exception wanted eagerly to develop the linguistic features of medical English. Add to that, the good results of the post speaking test prove that the seven months and the three weeks of medical instruction were fruitful for both the experimental and control group. This is another evidence that borne out the first research hypothesis.

As regards the second hypothesis, the researcher speculated that a wise and a judicious use of audio-visual materials along with well-structured speaking tasks may help students to develop their speaking skill significantly. In practice, designing a medical course based on audio - visual material was time consuming and effort demanding. Yet, the availability of free resources online helped the researcher to develop well thought out speaking medical lessons based on medical videos and medical power point presentations.

As pointed so far, the experimental phase was the most difficult and the most demanding phase in this quasi- experimental study because the nature of the research makes it imperative for the researcher to teach both the experimental group and the control group the same medical syllabus, using different teaching materials. Therefore, all the speaking lessons were planned with painstaking attention.

Unsurprisingly, the results of the course evaluation questionnaire administered at the end of the experimental phase reveals the satisfaction of all the participants in both groups the experimental and control group. Such research findings prove that both teaching methods were successful from the point of view of the participants.Thus, based on the findings of the course evaluation questionnaire of the experimental group and the results obtained via speaking self assessment checklist of the experimental group and as demonstrated earlier through an intra comparison between students pre and post speaking test results of the experimental group, the data results compiled through those different instruments strongly support the second research hypothesis.

Concerning the third research hypothesis, the inter comparison between the results of the post speaking test of both the experimental and the control group shows that the experimental group which received audio –visual instruction outperformed the control group which was taught in the traditional way relying only on chalkboard, texts, worksheets, flashcards and posters. Indeed, the statistical results of the t-test and the eta squared proved that the audio-visual course was more beneficial than the other traditional course. In view of this, the researcher can confirm the last hypothesis formulated as follows:: An audio-visual course is probably more beneficial and fruitful than a course based solely on chalkboard, texts, worksheets, flashcards and posters to develop medical students' speaking skill.Thus, it is safe to say that the audio-visual method is more fruitful than the traditional teaching method.

After analysing, comparing and contrasting the results of both the experimental and control group, the researcher reaches the conclusion that the audio visual method was better than the other method. Indeed, after trying out the video and the power point in class and after the satisfactory results achieved by the experimental group, the researcher in the last chapter put forward a proposal for syllabus and material development that promote and foster the development of the speaking skill for medical students. Therefore, the chapter offers some useful guidelines for both selecting and using medical videos and medical power point presentations in a medical class. It also provides a framework for incorporating language tasks that should accompany the medical video and more importantly,it presents also some useful communicative tasks, with some sample lessons .

Yet, every study, no matter how well it is conducted and constructed, has limitations and this quasi- experimental study is no exception. First of all, it was subject to the usual methodological limitations inherent to quasi –experimental research which is lack of randomization of the participants. Another obvious limitation lies in the relatively small size of the control group and the experimental group. Though , the small groups are more adequate to ensure fair and equal speaking opportunities for all the participants , the research findings cannot be generalisable to the large population of third year medical residents.

Taking these noteworthy limitations into account, more exhaustive and comprehensive research is recommended to study the same research problematic possibly with a larger number of participants. Moreover, in the present study the participants were from different medical specialities, thus future studies may be far more specific including participants from the same medical speciality and the audio-visual material used to teach the speaking skill should be closely related to such a medical speciality. For instance, future studies may examine the effectiveness of audio-visual instruction in developing the speaking skill for

oncologists; therefore, the audio-visual materials and the accompanying medical speaking tasks should be driven only from oncology and the course would be Medical English for oncologists.

To put it in a nutshell, while the present research is too small in scope, the results are not generalisable. Thus, other researchers can expand the boundaries of the present classroom research and study large classes. In fact, English for medical purposes is still a brand new in Algeria in general and in Tlemcen in particular. Yet, it is a promising fertile field of research for inquisitive and ambitious ESP researchers who wish to venture forth into the medical circles to identify possible language problems and to possibly bring out some solutions, serving thus the medical community first and subsequently the Algerian community.