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English for Specific Purposes Versus General English: Case Study of Second year

Students of Computer Sciences at 08 MAI 45 University - Guelma

**A Dissertation Submitted to the Department of Letters and English Language in Partial
Fulfillment of the Requirements for the Degree of Master in Language and Culture**

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DEDICATION I

*To the guiding stars of my odyssey: Mom, Dad, Fahmi, and to all the cherished souls I
love...eternal gratitude.*

Hazar

DEDICATION II

How can i encapsulate the essence of my family in mere lines?

Necibi/Alili

TO MY MOON

“YOU WILL NEVER WALK ALONE”

الجملة هذه كفيلة بان تضع فيك امل ل عشر سنوات القادمين
"و ما زرع الله في قلبك رغبة الوصول لامر معين الا لانه يعلم انك ستصل اليه "

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ABSTRACT

The significance of English for Specific Purposes (ESP) lies in its ability to equip learners with the language skills and knowledge required to effectively communicate within their chosen field. In today's globalized world, where English is widely used as a lingua franca, professionals need to possess not only a general command of the English language but also a specialized vocabulary and discourse patterns relevant to their respective areas of expertise. This study seeks to assess the effectiveness of ESP courses and the presence of technical language, particularly in the context of English for Science and Technology (EST). The aim is to evaluate whether ESP courses successfully incorporate EST features, and meet the language needs of Computer Science students or not. It is hypothesized that the instruction received by Computer Science students from their teacher tends to focus on General English (GE) rather than EST. To address the aforementioned purpose, this study employed a mixed-methods approach combining qualitative and quantitative analyses. Quantitative data was collected through a questionnaire, to assess students' attitudes towards the effectiveness of their courses. Additionally, the second set of qualitative data was collected through an interview, which aimed to address the teacher's experience and implementation of EST in the classroom. The findings of the study revealed several significant aspects related to the ESP courses in the field of Computer Science. Teacher's understanding of ESP principles and the integration of technical language in the classroom were limited. Moreover, students expressed dissatisfaction with the syllabus, and believed that the courses did not effectively enhance their language skills within the context of Computer Science. So, the findings confirmed the hypothesis that Computer Science students are exposed to GE instruction rather than EST instruction by their teacher. Furthermore, one notable concern raised by the students was the issue of inappropriate timing. At the end, it is recommended to prioritize teacher training as a key factor in improving ESP courses, and allocate more class time to allow for comprehensive coverage of the language skills and technical knowledge required.

Keywords: *ESP, EST, Technical Language, Computer Science.*

LIST OF ABBREVIATIONS

CNP: Communication Needs Processor	EST: English for Science and Technology
EAP: English for Academic Purposes	EVP: English for Vocational Purposes
EBE: English for business and Economics	GE: General English
EFL: English as Foreign Language	LMD: License Master Doctorate
EGP: English for General Purposes	NA: Needs Analysis
EOP: English for Occupational Purposes	PSA: Present Situation Analysis
ESL: English as a Second Language	PNA: Pedagogic Needs Analysis
ESP: English for Specific Purposes	TSA: Target Situation Analysis
ESS: English for Social Sciences	

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French Summary: Résumé

Arabic Summary: ملخص

GENERAL INTRODUCTION

GENERAL INTRODUCTION

Introduction

Effective communication is vital in today's interconnected world, particularly in specialized fields. English for Specific Purposes (ESP) has emerged as a prominent approach to language learning, tailored to meet the unique needs of learners in specific domains. English serves as the global language of communication, facilitating effective interactions across borders in various sectors, such as: business, science, technology, and culture. ESP recognizes the importance of equipping learners with the language skills necessary for their specific professional or academic contexts. By focusing on domain-specific vocabulary, specialized grammar, and relevant communication strategies, ESP enables learners to navigate their specialized fields with confidence and proficiency.

In the rapidly evolving realm of technology and innovation, ESP in technical fields, not only addresses the specific language requirements essential for understanding complex technical concepts, but also fosters effective collaboration, facilitates communication, and promotes successful outcomes in this dynamic environment. By developing enhanced language proficiency that is tailored to their field, learners are equipped to thrive in the ever-changing world of technology and make significant contributions to its advancement.

1. Statement of the Problem

In the field of Computer Science education, there is a potential lack of awareness among students regarding the need for English for Specific Purposes (ESP) courses that are specifically designed to cater to their field. Additionally, there may be a gap in the knowledge and understanding of ESP among teachers, leading them to primarily focus on teaching General English (GE) instead of ESP in their classes. This lack of exposure to ESP tailored for Computer Science, both among students and teachers, hinders the development of

necessary language skills and communication strategies required for success in the Computer Science domain. Thus, this research addresses the main following question:

Are ESP students really exposed to EST by their teachers or are they just studying GE?

2. Aims of the Study

English for Specific Purposes (ESP) instruction is crucial for meeting students' unique language requirements in fields like Computer Science. Tailored ESP courses develop relevant language skills, while incorporating EST further enhances proficiency in domain specific terminology and effective communication in professional settings. Therefore, the research aims to:

- To know whether ESP teachers are effectively delivering ESP instruction with a specific focus on EST or primarily focusing on GE in their classes.
- To investigate the availability and adequacy of relevant materials for the specific courses in question.
- To investigate the adequacy of training provided to ESP teachers for effectively instructing EST courses.
- To investigate the awareness among Computer Science students regarding the need to take EST courses instead of GE courses
- To determine the level of satisfaction among Computer Science students regarding their EST courses.
- To offer teachers recommendations for enhancing their teaching of EST to better meet the specific language needs of students.

3. Research Hypothesis

This study aims to examine and analyze the instructional practices employed by EST teachers. Hence, it is hypothesized that:

H0: Computer Science students are exposed to GE instruction rather than EST instruction by their teacher.

H1: Computer Science students are exposed to EST instruction by their teacher rather than GE.

4. Research Methodology and Design

4.1. Research Method

This research employed both quantitative and qualitative methods to achieve its objectives. Quantitative data was collected through student questionnaires to measure satisfaction with ESP courses and assess the effectiveness of EST instruction. Qualitative data was gathered through teacher's interview to gain deeper insights into instructional practices and the integration of EST. By combining these methods, the study aims to confirm the research hypothesis and provide a comprehensive understanding of the effectiveness and impact of ESP courses on student satisfaction and the utilization of Technical English.

4.2. Population of the Study

The target population of this study consists of second-year students from the Department of Computer Science. From the total theoretical population of 88 students, a random sample of 50 students contributed to the research. Second-year students were chosen for this study due to their clear purpose, specific needs, and aspirations within their field of study. These students have progressed through their first and second year; and likely have a better understanding of their field's requirements. As a result, they are an appropriate group to assess the effectiveness of ESP courses and the integration of Technical English, considering their exposure to the field and their ability to provide insights into their specific language needs in both academic and professional contexts.

5. Structure of the Dissertation

The current study is divided into three chapters along with a general introduction and a general conclusion. The initial chapter of this study, "Literature Review on ESP," focuses on providing definitions and descriptions of English for Specific Purposes (ESP), conducting needs analysis, designing ESP courses, and addressing the challenges of ESP teaching in Algeria's LMD system. The second chapter, "Language Description," explores the concept of Discourse Analysis, different types of discourse, compares ESP and General English (GE), examines EST with its key characteristics, and concludes with the role and selection of ESP materials. The third chapter, "Reality of EST inside Classroom" outlines the implementation of a student questionnaire and teacher interviews, analyzes the data collected from both sources, interprets the findings based on research questions and hypotheses, and concludes with recommendations and limitations.

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1.1. Introduction

English has largely replaced all other languages as the dominant one of communication in today's globalized world, which explains the rise in demand for ESP teaching to meet individuals' needs for learning specialized language skills for academic or professional purposes. In response to this demand, a number of organizations have begun to provide ESP training courses and programs with an emphasis on providing students with the specialized language and communication skills required to succeed in their chosen fields. In this chapter, a considerable emphasis is placed on the theoretical definitions of ESP, its characteristics, branches and types, along with ESP course design and Needs Analysis. A few definitions of the LMD system and its implementation in Algeria are also provided.

1.2. Definition of ESP

Scholars have always had trouble defining ESP, as seen by the numerous definitions that were proposed as a result of their unsuccessful attempts to put forth a single and permanent definition, as noted by Strevens (1988) who believes that, "producing a simple and straightforward definition of ESP is not an easy task" (p. 109).

Several definitions were suggested by various instructors for ESP, one of which was stated by Hutchinson and Waters (1987) by saying that "ESP must be seen as an approach not as a product...ESP is an approach to language teaching in which all decisions as to content and method are based on the learner's reason for learning" (p. 19). That is to say, the emphasis is on learner's reasons behind the need to learn English rather than any particular kind of language, methodology or any teaching materials.

Moving further, ESP, as introduced by Mackay and Mountford (1978) is "generally used to refer to the teaching of English for a clearly utilitarian purpose. This purpose is usually defined with reference to some occupational requirement...or some academic or professional study" (p. 2). This denotes that the language in ESP is not learned for the sake of

learning it, but to meet specific occupational, academic, or scientific objectives. Similarly, Robinson (1991, p. 2) argued that students often study English because they need it for their study and career goals rather than because they are interested in the language or culture as a whole.

Following, ESP is described by Mackay et al. as the "special language" that is utilized in particular contexts by "certain participants," who are typically adults. They focused on adults' awareness of the reasons for acquiring English language proficiency in a particular field of specialization, and their actual use of special language in special settings. Moreover, they claimed that there is a connection between special contexts, adults, and the role that English—which is often auxiliary—plays in those specific contexts for those specific people.

Additionally, Hyland (1994) proposed that language teaching in ESP draws upon identification of the specific language features, discourse practices, and communicative skills of the target situation, along with teaching practices that take into account learners' experience and their specific subject-matter need (p. 80).

To sum up, ESP is a language teaching approach that emphasizes meeting the specific needs of learners in their academic, professional, or occupational contexts. There is not a single definition of ESP, but it generally involves teaching learners the language and discourse practices used in their specific field or situation. This approach is typically used with adults who have a clear reason for learning English and need it for a utilitarian purpose.

1.2.1. Characteristics of ESP

A distinction was made between four absolute characteristics and two variable characteristics by Strevens (1988, pp. 1-2)

1.2.1.1. Absolute characteristics

ESP consists of English language teaching which

- Designed to meet specified needs of the learner;

- related in content (i.e., in its themes and topics) to particular disciplines, occupations and activities;
- centered on the language appropriate to those activities in syntax, lexis, discourse, semantics, etc., and analysis of this discourse;
- in contrast with General English.

1.2.1.2. Variable characteristics

ESP may be, but is not necessarily

- restricted as to the language skills to be learned (e.g. reading only);
- not taught according to any pre-ordained methodology (1988, pp. 1-2).

Strevens' definition is clearly a source of inspiration for Dudley Evans and St. Johns' (1998, pp. 4-5), who almost kept it as it is except for a slight change at ESP "in contrast with 'General English' point at the level of the absolute characteristics which was eliminated by the latter, and added to the variable ones along with some other additions such as age and level:

- ESP may be related to or designed for specific disciplines;
- ESP may use, in specific teaching situations, a different methodology from that of general English;
- ESP is likely to be designed for adult learners, either at tertiary level institution or in a professional work situation. It could, however, be used for learners at secondary school level;
- ESP is generally designed for intermediate or advanced students. Most ESP courses assume basic knowledge of the language system, but it can be used with beginners.

1.2.2. Branches of ESP

ESP being a subfield of English Language Teaching (ELT), some people consider it a mere teaching of English for any specific purposes; others, however, describe it as the teaching of English used in academic studies or for vocational or professional purposes (Anthony, 2019), and this is exactly what Hutchinson and Waters (1987) indicate that "these may be conveniently divided into two main types of ESP, differentiated according to whether the learner requires English for academic study or for work/training"(p. 16)

Hutchinson and Waters (1987) made a detailed description of ELT as tree as follows:

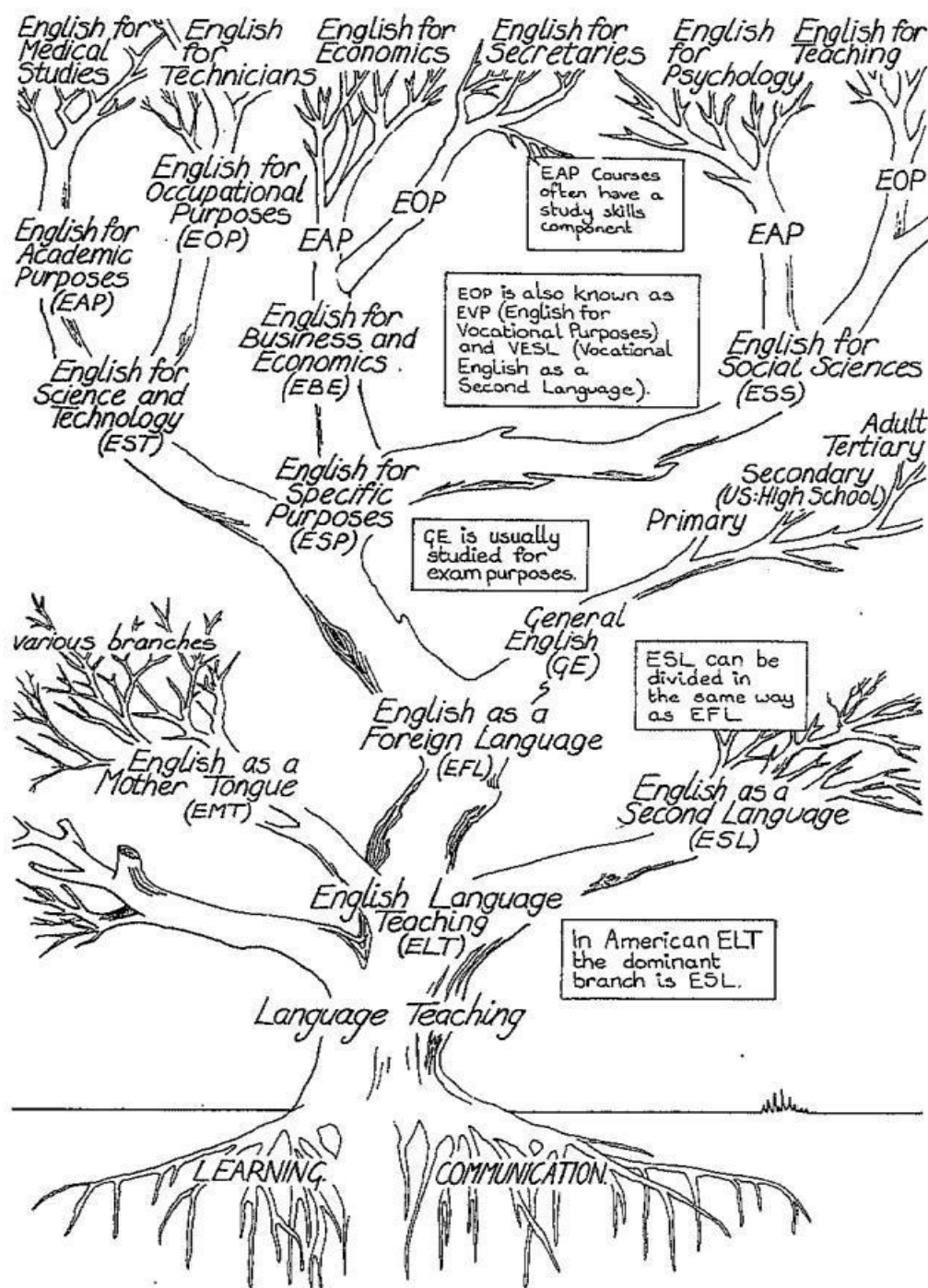


Figure 1.1. The Tree of ELT (Hutchinson and Waters, 1987, p. 17)

Where they depicted communication and learning as the standpoint of language teaching. This latter is divided mainly into ESL and EFL. Both of these categories share a common subfield known as English for Specific Purposes (ESP). Furthermore, the tree of ELT represents two

main branches of ESP, which are EOP and EAP. These two branches share several subfields, including EST, EBE, and ESS. Moreover, they explained how ESP can be tailored to meet the specific needs of learners, depending on their situation and goals. For example, a learner who needs English for Medical Studies, Economics, or Psychology would likely focus on EAP, while a learner who needs English for Technicians, Secretaries, or Teaching would likely focus on EOP.

Since people can work and study simultaneously, there is no apparent distinction between EAP and EOP (Hutchinson & Waters, 1987). The preceding statement explains Carter's logic for categorizing EAP and EOP under the same type of ESP.

David Carver (1983) distinguishes three types of ESP:

- English as a restricted language.
- English for Academic and Occupational purposes.
- English with Specific Topics.

The language employed by waiters, in Carver's opinion, is an illustration of English as a restricted language, which is language used in certain contexts with given vocabulary, syntax, and discourse patterns. In the third type, the focus shifts from the purpose to the topic, such as science and technology. Learner-centered role play and simulation activities should be included to effectively prepare scientists for future language needs. For example, undergraduate science students may not presently require English skills, but they may need to read scientific literature or attend conferences later on. By incorporating role play and simulation exercises into the course, students can practice skills like presenting research findings or engaging in scientific discussions, better equipping them for their anticipated future purposes.

1.2.2.1. English for Academic Purposes (EAP)

‘English for Academic Purposes’ just like its name implies, has to do with academic settings such as learning English to pursue academic goals in higher degrees. Along these lines, Kennedy and Bolitho (1984) affirm: “EAP is taught generally within educational institutions to students reading English in their studies” (p. 4). In the same vein, Robinson (1980) defined EAP, or study skills, as the ability to learn in English, no matter the subject being studied (p. 7). Both statements stressed the ultimacy of learning English as an end in itself when it comes to EAP, in addition to not considering the content being taught, which was strongly highlighted by the second author.

1.2.2.2. English for Occupational Purposes (EOP)

EOP is a subset that belongs to ESP, as Dudley Evans and St. John (1998) affirm that, “it is not for Academic purposes, it includes professional purposes in administration, medicine, law, and business, and vocational purposes for non-professionals in work or pre-study work” (p. 7). In other words, EOP offers the language that focuses on the students' requirements as well as their needs in order to further their careers; it typically occurs in work settings when the learner has to practice his/her English to accomplish his/her job; as Kennedy and Bolitho (1984) assert, EOP is taught with the intention of enabling students to utilize English as a part of their work or profession (p. 4). In the following graphic, it is depicted that each of these ESP branches may be further split into sub-branches based on the fields or professions that it relates to:

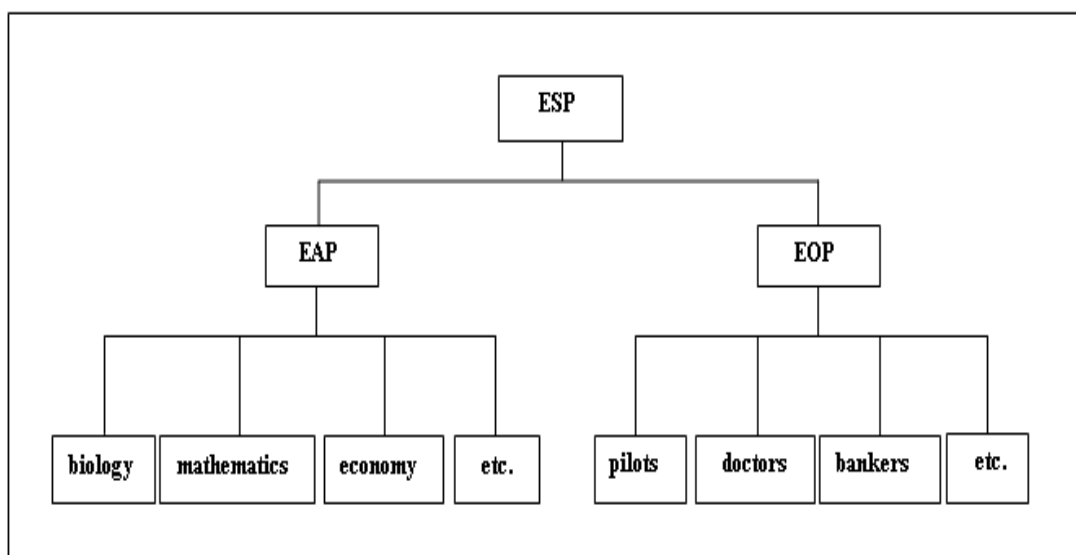


Figure 1.2. The two Major Branches of ESP (Flowerdew & Peacock, 2001, p. 12)

1.2.3. Types of ESP

ESP encompasses specialized types like EST, EBE, and ESS, each of which focuses on using English effectively in science and technology, business and economics, and social sciences respectively, catering to the specific language needs of professionals in these domains.

1.2.3.1. English for Science and Technology (EST)

Trimble (1958) states that the term EST was originally defined by Larry Selinker as “the written discourse of English for Science and Technology” (p. 20). EST is the term used to describe the specialized use of English in the domains of science, technology, engineering, and mathematics (STEM) that need technical terminology, phrases, and ideas to communicate information about them, in which English for Technicians serves as an example of EOP, and English for Medical Studies serves as an example of EAP for the EST type (Hutchinson et al., 1987).

Kennedy et al. (1984) claim that the term EST implies a collection of vocabulary items, grammatical forms and functions which are commonly employed in the study of science and technology, which suggests that the use of the term EST (English for Science and

Technology) assumes a set of words and sentence structures that are shared among science and technology fields. EST, therefore, is based on a shared understanding of the language employed in these domains.

1.2.3.2. English for Business and Economics (EBE)

It is specifically concerned with the use of English as a means for efficient communication in the fields of accounting, finances, marketing, and management. On one hand, EOP of this type is perfectly exemplified with English for Secretaries, and EAP on the other hand, with English for Economics (Hutchinson et al., 1987).

1.2.3.3. English for Social Sciences (ESS)

Describes how English language is specifically used in academic and professional settings within the social sciences discipline. It entails expressing research findings, concepts, and ideas on human behavior, society, and culture using English. EOP for the ESS type, according to Hutchinson et al., is illustrated through English for Teaching, while EAP is through English for Psychology.

1.3. Needs Analysis

The process of identifying the needs of students in order to develop efficient teaching and learning styles, as well as the course's aims and objectives and the expected learning outcomes for the students is known as: Needs Analysis in educational environments. So, in order to create a syllabus that is adapted to learners' needs, it is highly crucial for the teacher to know and analyze their students' existing knowledge, abilities, goals and expectations. As a result, a number of linguists stressed the need of using needs analysis as a starting point for creating curricula, courses, and materials for particular recipients.

Needs Analysis could be defined as:

The process of determining the needs for which the learner or group of learners required a language and arranging the needs according to priorities, and it made use of both

subjective and objective information (Richards & Rodgers, 1986), as a result, language teaching becomes more effective and efficient by being tailored to the specific needs of the learners.

Once the needs of the students have been determined, they may be utilized to guide the creation of a syllabus or curriculum as explained by Munby (1978) in his definition of Needs Analysis as the first step in specifying or designing a syllabus, and referred by Basturkmen (2010), as a process of identifying language and skills to determine and improve the context for the ESP course (p. 17).

Overall, needs analysis is similar to conducting research to determine what students need to learn and how they learn it most effectively, then utilize that knowledge to develop a teaching strategy.

1.3.2. Types of Needs Analysis

Scholars put forward different types of needs analysis in the context of teaching and learning second or foreign languages, with the aim of fulfilling learners' specific requirements. The main types proposed include Target Situation Analysis (TSA), Present Situation Analysis (PSA), and Pedagogic Needs Analysis (PNA).

1.3.2.1. Target Situation Analysis (TSA)

Target Situation can be seen as the ultimate purpose of language learning in which learners are to be provided with a tangible environment, in order to apply their language skills and knowledge. Accordingly, Hutchinson and Waters (1987) defined TSA as the situation, wherein language learners will be using the language they are learning.

TSA is a type of Needs Analysis that seeks to identify language needs of learners in their intended work or academic environment. Its focus is on pinpointing the specific language requirements necessary for them to be successful in that context (West, 1994).

Munby gives a highly thorough range of procedures for determining target situation needs (Hutchinson et. al 1987), which he calls the Communication Needs Processor (CNP). The CNP consists of a range of questions about key communication variables (topic, participants, medium etc.) which can be used to identify the target language needs of any group of learners.

According to Hutchinson et al. (1987), the process of asking questions regarding the target situation and the individual learners' attitudes toward it, constitutes the core of the analysis of target situation needs (p. 59).

The majority of these queries relate to the Munbian model as follows:

<p>1. Why is language needed?</p> <ul style="list-style-type: none"> ● For study; ● For work; ● For training; ● For a combination of these; ● For some other purposes, e.g. status, examination, promotion 	<p>cf. Munbian Purposive domain</p>
<p>2. How will the language be used?</p> <ul style="list-style-type: none"> ● Medium: speaking, writing, reading, etc.; ● Channel: e.g. telephone, face to face; ● Types of text or discourse: e.g. academic text, lectures catalogues, etc 	<p>cf. Munbian Instrumentality</p>
<p>3. What will the content areas be?</p> <ul style="list-style-type: none"> ● Subjects: e.g. medicine, biology, commerce, shipping, etc.; ● Level: technician, craftsman, postgraduate, etc. 	<p>cf. Munbian Communicative event</p>
<p>4. Where will the language be used?</p> <ul style="list-style-type: none"> ● Physical setting: e.g. office, lecture theater, hotel, workshop, library; ● Human context: alone, meetings, demonstrations, on telephone; ● Linguistic context: e.g. in own country, abroad. 	<p>cf. Munbian setting (physical and psychological)</p>
<p>5. When will the language be used?</p> <ul style="list-style-type: none"> ● Concurrently with the ESP course or subsequently; ● Frequently, seldom, in small amounts, in large chunks. 	

Figure 1.3. Hutchinson and Waters' Framework Vs Munby's Model (Songhori 2008, p. 8)

1.3.2.2. Present Situation Analysis (PSA)

While TSA aims to define what the learners should be like by the conclusion of the language course, PSA seeks to determine the learners' starting point in their language learning journey. According to Robinson (1991), PSA aims to determine the initial state of students at the beginning of their language course, exploring their capabilities and areas for

improvement. Along similar lines, PSA is designed to evaluate and provide an estimate of a person's abilities and limitations in different areas, such as: language, skills, and learning experiences (Dudley-Evans & St-John, 1998). In other words, its goal is to highlight a person's strengths and potential improvement areas. Later, this knowledge may be applied to direct learning and growth.

1.3.2.3. Pedagogic Needs Analysis (PNA)

West (1997) asserts that data collection about learners and learning environments should be used to compensate for the deficiencies of TSA. He suggested the term "Pedagogic Needs Analysis" (PNA) as a general word to refer to the following three aspects of needs analysis:

- Deficiency Analysis
- Strategy Analysis
- Means Analysis

Deficiency Analysis

According to Jordan (1997) Deficiency Analysis (DA) is related to the areas of weaknesses or deficiencies that the student exhibit, which means that in order to assist learners succeed academically, instructors may use DA as a useful tool to help them address the precise situations, where they are having difficulty (p. 26).

Strategy Analysis or Learning Needs Analysis

In order to make learning more efficient and interesting, strategy analysis stresses the importance of taking individual learners' learning preferences into account. West (1998) referred to it as how the learners want to learn instead of what they need to learn (as cited in Songhori, 2008, p. 12).

Means Analysis

Dudley-Evans and St. John (1998) depict means analysis as recognizing that what may be effective in one context might not be suitable in another, i.e. it involves acknowledging the uniqueness of each situation, and considering the specific factors that may influence the outcome. Jordan (1997) states that it entails a study of the local situation, including: teachers, teaching, teaching techniques, students, resources, and other factors, to determine the feasibility of introducing a language course.

1.3.3. Importance of Needs Analysis

Some scholars and writers have highlighted the significance of needs analysis including Saragih (2014) who states that “Needs Analysis is very important in designing teaching materials for English for Specific Purposes” (p. 59), which implies that instructors should give it priority in their teaching practices; since it is a crucial part of ESP instruction.

To address the crucial role that needs analysis plays in course design, Long (2005) mentions four reasons for carrying out a needs analysis:

- To assess the suitability of the material to the learners' specific situation.
- To justify the material's relevance to all stakeholders involved, including teachers, learners, administration, and parents.
- To take into account the diverse learning needs and styles of the learners.
- Designing a syllabus that will fully meet the learners' needs within the given context.

Hence, Needs Analysis allows teachers to provide their learners with the best learning experiences, as they may establish a supportive learning environment that fully realizes the potential of each student by knowing their specific needs and distributing resources accordingly.

1.4. ESP Course Design

Hutchinson and Waters (1987) define course design as "the process by which the raw data about the learning need is interpreted in order to produce an integrated series of teaching-learning experiences, whose ultimate aim is to lead the learners to a particular state of knowledge" (p. 65). While according to Munby (1978), ESP courses are fundamentally shaped by conducting a prior analysis of the learners' communication needs. The statement emphasizes the significance of needs analysis in creating successful ESP courses. Course designers may create lessons that are more pertinent, interesting, and helpful in assisting learners in achieving their language objectives by taking into account the specific communication needs of learners.

1.4.1. Approaches to ESP Course Design

Each approach to use will depend on the specific needs and goals of the learners, as well as the field they are studying or working in; therefore, Hutchinson et al. (1987) presented the three following approaches:

- Language Centred
- Skill Centred
- Learning Centred

1.4.1.1. Language Centred Approach

This approach is a very common type of course design process in ESP for its simplicity and is certainly the one that English teachers are most familiar with, which goes like this:

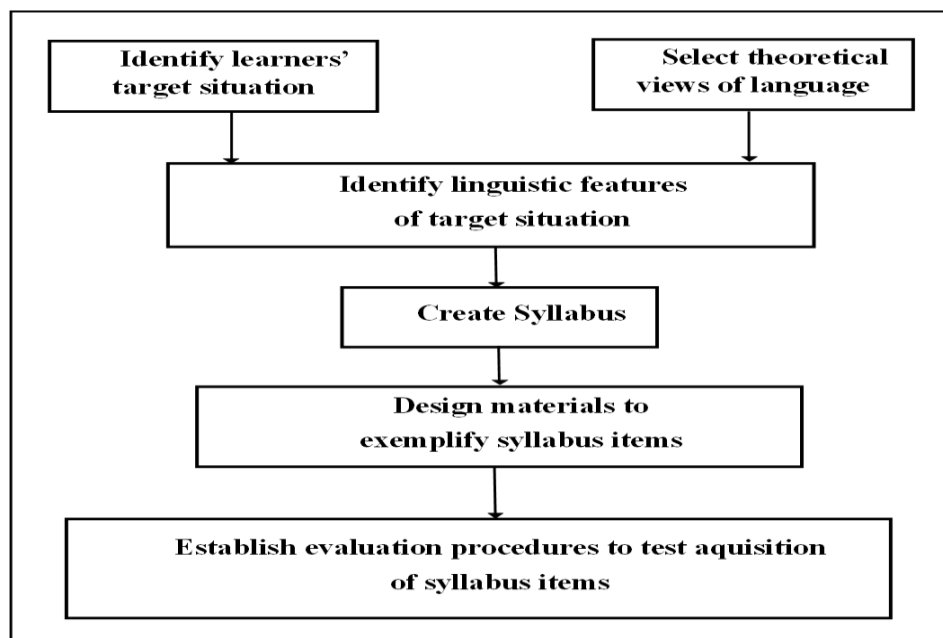


Figure 1.4. A Language-Centered Approach to Course Design (Hutchinson & Waters, 1987, p. 66)

To create an effective language learning program, instructors should start by identifying the learners' target situation and language learning goals. They should then select a theoretical view of language, such as communicative language teaching, which will guide the overall approach. Next, they need to identify the specific linguistic features necessary for the target situation. Based on this, a syllabus can be created, outlining the content and organization of instruction. Materials should be designed to exemplify the syllabus items, accommodating to learners' proficiency levels and interests. Finally, evaluation procedures should be established to assess learners' progress and acquisition of the syllabus items, ensuring effective language learning outcomes.

The approach under discussion, however, is not genuinely learner-centered; since it only employs the learner to pinpoint the precise language structure that has to be taught and ignores their unique learning requirements throughout the process. Because of this, learner-restricted rather than learner-centered would be a better description of the approach (Hutchinson & Waters, 1987).

1.4.1.2. Skill-Centered Approach

Skill-centered approach's goal is to improve learners' information processing skills rather than to offer a specific corpus of linguistic knowledge.

Two guiding principles, one theoretical and one pragmatic, serve as the foundation for the skills-centered approach (Hutchinson & Waters, 1987, p. 69). The theoretical one is that language behavior is based on certain skills and strategies used by the learner to produce or comprehend discourse. The difference highlighted between goal-oriented and process-oriented courses by Widdowson (1981) provides the pragmatic basis for the skills-centered approach (as cited in Hutchinson & Waters, 1987). This indicates that the approach to teaching language skills focused on emphasizing either the learning process itself or reaching particular goals.

According to Widdowson (1981), Goal oriented relates to what learners will ultimately do with the language when the course ends, and Holmes (1982) defined the process-oriented courses as:

at least realistic in concentrating on strategies and processes of making students aware of their own abilities and potential, and motivating them to tackle target texts on their own after the end of the course, so that they can continue to improve. (as cited in Hutchinson & Waters, 1987, p. 70)

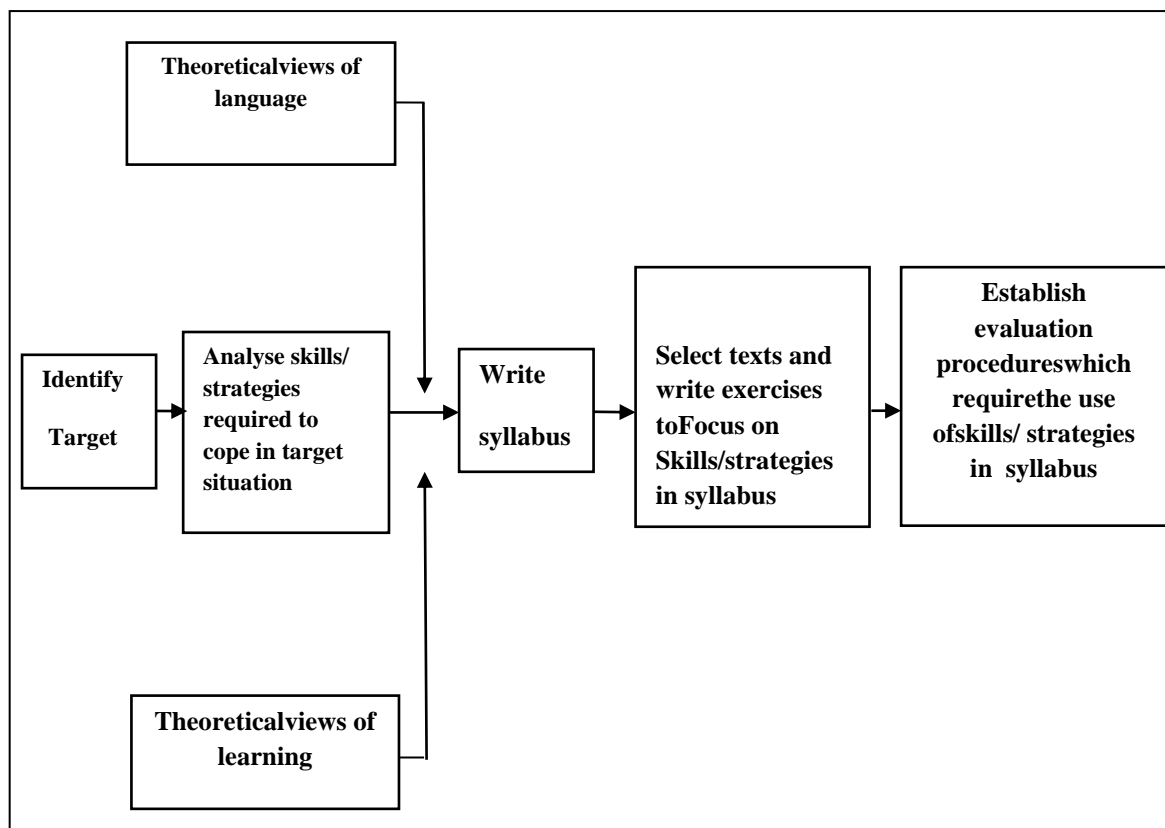


Figure 1.5. Skills-centered Approach to an ESP Course Design (Hutchinson & Waters, 1987 p. 71)

This approach begins by identifying the target situation and analyzing the skills required to cope with it. It takes into account the practical needs of students and potential situations from everyday life. It also emphasizes the importance of a clear theoretical view of language and learning, which can help guide the design of the syllabus and teaching materials. Furthermore, the use of a syllabus that focuses on skills can help ensure that learners are developing the specific abilities they need to achieve their goals. Finally, by establishing evaluation procedures that require the use of skills in the syllabus, this approach can help ensure that learners are assessed based on their ability to apply their language skills in meaningful ways. Overall, the skills-centered approach appears to be a well-structured process that can help ensure that language learners are developing the skills they need to succeed in real-world situations.

Despite its focus on the learner, the skills-centred approach typically treats the learner more like a language user than a language learner (Hutchinson et al., 1987, p. 70).

1.4.1.3. Learning Centred Approach

The approach is based on the belief that learners should be active participants in the learning process. According to Hutchinson and Waters (1987) “learning, therefore, is an internal process that is crucially dependent upon the knowledge the learners already have and their ability and motivation to use it” (p. 72).

Hence, according to Hutchinson et al. the process of learning centred approach focuses on:

- Identify learners
- Analyze learning situation
- Theoretical views of learning
- Identify attitudes/wants/ potential of learners
- Theoretical views of language
- Target situation
- Identify skills and knowledge needed to function in the target situation
- Identify needs potential/ constraints of learning/ teaching situation
- Write syllabus/materials to exploit the potential of the learning situation in the acquisition of the skills and knowledge required by the target situation
- Evaluation

Weimer (2002) stated that there are various ways in which a learning-centred course differs from a traditional teaching-centered (language/skills centred) course; since the learner can be involved at every level of the learning process. According to Lamri et al. (p. 2) for this learning process to be achieved, the following principles are to be taken into account:

- Learning is totally determined by the learners, who use their knowledge and skills to make sense of new information.
- Learning is not just a mental process; it is a process of negotiation between individuals and society.
- Course design is a negotiation process, in which both the target situation influences the features of the syllabus, and also it is a dynamic process, wherein means and resources vary from time to time.

Ultimately, all approaches should be viewed as being simultaneously available, as Robinson (1991) argues, and that each approach must be tailored to a specific situation for the straightforward reason that there is no single model for an ESP course.

1.4.2. Characteristics of ESP Courses

Carver (1983) identified three characteristics of ESP courses:

- Authentic material.
- Purpose-related orientation.
- Self-direction.

These three characteristics are applicable to all ESP courses.

1.4.2.1. Authentic material

A number of writers, including Robinson et al. (1991), affirm that “Authenticity is a key concept in ESP courses.” Authentic materials are texts created by native speakers for non-pedagogical purposes, As Blagojević (2013) suggests that their use in teaching ESP requires students to read, comprehend, and analyze these texts, can help them develop their language skills.

1.4.2.2. Purpose-related Orientation

The second feature of the ESP course is purpose-related orientation, as previously indicated by Carver (1983). It entails that English language instruction aims at giving students

the ability to speak effectively in a certain setting or career. In doing so, he states the attendants' simulation of a conference, involving the preparation of papers, reading, note taking, and writing. ESP instruction, therefore, would focus on the language and communication skills needed for conference-related tasks such as writing and presenting papers, taking notes, and engaging in discussions with other participants.

1.4.2.3. Self-Direction

Self-direction is the third and last feature of ESP proposed by Carver (1983), which is, according to him "the point of including self-direction... is that ESP is concerned with turning learners into users" (p. 134). According to the idea put forward, the goal of ESP is to help learners become excellent language users in their specific environment rather than simply teaching them the language itself. Self-direction happens when a language user has the capacity to lead his or her own learning.

1.5. ESP Teaching Challenges in Algeria's LMD system

According to Mignanwande and Hounmenou (2016) "the LMD is an acronym for Licence, Master, Doctorat. The LMD system represents a set of changes and innovations introduced in higher education consisting of an organization into three levels of training system: License (bachelor), Master, and Doctorate" (p. 159).

LMD system divides education into three levels: License, Master, and Doctorate, with the goal of providing a unified and comparable higher education system. Students may transfer between levels and institutions more easily under this system, and each level offers students information and skills that are progressively more specialized.

To raise the standard of education and make it more pertinent to the demands of the country, the system was progressively introduced across all Algerian universities and other higher education institutions as Bouklikha (2016) highlighted "to unify the Algerian University system with the world Universities, the Algerian government has invested a lot of

money in recent years on the new system of LMD (Licence- Master- Doctorat) in order to ensure quality training” (p. 64).

Teaching ESP in this context, however, may lead teachers to face a range of obstacles in delivering effective language instruction, which meets the diverse needs and goals of learners in specific fields depending on the teaching situation that may vary from one teacher to another. One major challenge, according to Pei and Milner (2016), is that the majority of teachers typically have a background in general English instruction, which means they may lack specialized knowledge for ESP contexts. Therefore, ESP teachers need to be familiar with both the practical and professional aspects of the subject and should have some basic knowledge of both (Koran, 2014).

In the same vein, Cahyaningati (2019) identifies several challenges, including:

1. Lack of teachers’ knowledge in subject matter terminology.
2. The suitability between the course content and students needs.
3. Students’ low Motivation.
4. Students’ poor English General proficiency.

Boudersa (2018, p. 17) proposed solutions to address these obstacles:

- The ESP course should contain special language or terminology and special content.
- Teachers of ESP who are not specialists or professionals in the content of the field in question should enrich and widen their knowledge in the field in question.
- Teachers of ESP should master subject-matter language.
- Teachers of ESP should be course or syllabus designers.
- Teachers of ESP should have the knowledge and competences to decide about the texts (level of difficulty, vocabulary, concepts) to be involved in their ESP course.

- Teachers of ESP should be competent enough to sequence and structure topics and lessons in the ESP course.
- Teachers of ESP should be competent enough to decide about what to keep and what to omit of texts in the process of text-modification or adaptation.
- Teachers of ESP should be competent enough to make appropriate decisions in the choice of texts that meet students' level of proficiency.

To sum up, besides teaching English as a second language, ESP teachers need to have specialized knowledge and skills in a variety of areas, such as subject-specific terminology and content, course and material design, text modifications, and appropriate text selection. This emphasizes the necessity of ongoing professional development for teachers, in order to successfully address the various needs and objectives of students in certain domains.

1.6. Conclusion

The rise of ESP is a reflection of the demand for more specialized and focused language teaching. In light of how the globe is developing and connecting more and more, teaching specialized languages is becoming more crucial in a variety of industries. Language training that is adapted to particular settings and objectives will probably still be required as new difficulties and possibilities present themselves. The actual chapter provided a comprehensive theoretical framework on the concept of ESP, covering various aspects such as course design, needs analysis, LMD system, and challenges faced by ESP teachers in Algeria.

CHAPTER TWO: LANGUAGE DESCRIPTION

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1. Introduction

English has become the universally accepted language in almost all fields of knowledge. As a result, there is a growing demand for English for Specific Purposes (ESP). The chapter primarily focuses on Discourse Analysis that provides a framework for examining how language is used in various contexts. Additionally, the distinction between ESP and GE is explored the differentiating features of EST, emphasizing the specialized language and communication skills required in this field. Furthermore, the chapter probes into the typology of ESP materials, encompassing reading, writing, listening, speaking, and integrated skills activities. The role of ESP teaching materials is discussed, highlighting their contribution to vocabulary, grammar, culture, and pronunciation instruction, and addressing the roles of teachers in the learning process. The chapter concludes by highlighting the proficient criteria for selecting and building suitable ESP materials.

2.2. Discourse Analysis

In a 1952 article, Harris introduced the term “Discourse Analysis,” discussing the limitations of examining sentences alone and emphasizing the importance of analyzing the cultural and situational context in which they are uttered. Harris believed that the relationship between sentences was determined by the context in which they were spoken, implying that similar situations would result in similar discourses (Suciu, 2019).

Brown and Yule (1983) pointed out that “the analysis of discourse is, necessarily, the analysis of language in use”. Similarly, Paltridge (2012) describes Discourse Analysis as examining how language is used in different texts and how it intertwines with the social and cultural contexts in which it is used. In other words, Discourse Analysis seeks to understand how people use language to convey meaning and accomplish social tasks in specific contexts. As the field has evolved, scholars such as Dijk (2013) have highlighted that Discourse Analysis is an interdisciplinary field that takes into account both the cognitive aspects of

language production and reception, as well as the sociocultural factors that influence communication.

In summary, Discourse Analysis is a field that seeks to understand the complex ways in which language is used in different contexts and how it reflects and influences social and cultural norms.

2.3. Types of Discourse

Discourse encompasses various types, where each focuses on specific domains to examine language use and communication practices.

2.3.1. Political Discourse

The term “Political Discourse” can be understood in two ways. Firstly, it can refer to discourse that is inherently political in nature. Secondly, it can refer to the analysis of Political Discourse as a specific type of discourse, without necessarily focusing on political content or context explicitly (Wilson, 2008). This implies that it can refer to discourse that is aimed to be political, by involving the expression of opinions, beliefs, or values related to politics or political issues. Alternatively, it can refer to an analysis of discourse that is about politics, but is not necessarily being examined for its political implications, meanings, or effects.

Political Discourse exhibits distinct characteristics that distinguish it from other forms of communication. Kenzhekanova (2015, pp. 197-198) states four features:

1) Agonistic ability, i.e. competitiveness: Political discourse exhibits competitiveness through continuous dialogue and debate between the ruling party and opposition, resembling elements of sports competition such as rivalries, rules, strategies, victories, and defeats.

2) Aggressiveness: Aggression is a prominent feature of political discourse, encompassing hostile behavior, hierarchical dominance, and verbal attacks aimed at degrading opponents through various speech acts.

3) Ideological character: represents the system of social representations, group knowledge, beliefs and opinions based on group values, norms and interests. it shares similarities with military operations as both involve the expression of ideology and the pursuit of goals through various genres, such as military doctrine, agreements, ultimatums, and peace negotiations.

4) Theatricality: Theatricality in Political Discourse merges elements of advertising and stage performance, where politicians engage in communication as performers addressing the observer audience, aiming to create an impression and receive public approval.

Moving further, Graber (1981, cited in Gastil, 1992, p. 469), believes that Political Discourse takes place “when political actors, in and out of the government, communicate about political matters, for political purposes”. This indicates that it is essentially related to the discussion of political topics and the ways in which individuals and groups utilize language to influence political decisions and outcomes.

The following statement exemplifies Political Discourse by addressing economic and policy-related matters; it reflects political actors communicating about political topics

Where is it written that America can't lead the world in manufacturing again?
 For too many decades, we imported products and exported jobs.
 Now, thanks to all we've done, we're exporting American products and creating American jobs.
 Inflation has been a global problem because of the pandemic that disrupted supply chains and Putin's war that disrupted energy and food supplies.
 But we're better positioned than any country on Earth.
 We have more to do, but here at home, inflation is coming down.
 Here at home, gas prices are down \$1.50 a gallon since their peak.
 Food inflation is coming down.
 Inflation has fallen every month for the last six months while take home pay has gone up.

Figure 2.1 Political Discourse illustration. Adapted from <https://www.whitehouse.gov/>

2.3.2. Medical Discourse

According to Yo'ldoshevna (2023), it can be determined that Medical Discourse in linguistics deals with the language usage in the realm of medicine, examined from pragmalinguistic (which refers to the study of language use in medical communication), psycholinguistic, and sociolinguistic perspectives. Fundamental aspects of Medical Discourse pertain to dynamism (the continuous development in medical knowledge, technologies, and practices), openness (accessible communication or comprehensible language between healthcare providers and patients), relationships, purposefulness, informational value, uniformity, ethics, and discreteness. Medical Discourse is described as an institutional or status-oriented form of interpersonal communicative exchange (communication in Medical Discourse involves hierarchical interactions between healthcare professionals and patients, with healthcare providers holding authority and expertise, and taking into account patients needs) based on its key features.

Moreover, Wilce (2009) asserts that “Discourse plays an important role in medicine, and Medical Discourse in the broadest sense (discourse in and about healing, curing, or therapy; expressions of suffering; and relevant language ideologies) has profound anthropological significance”.

The following example of hepatitis C provides a practical illustration of Medical Discourse.

Hepatitis C is a liver infection caused by the hepatitis C virus (HCV). Hepatitis C is spread through contact with blood from an infected person. Today, most people become infected with the hepatitis C virus by sharing needles or other equipment used to prepare and inject drugs. For some people, hepatitis C is a short-term illness, but for more than half of people who become infected with the hepatitis C virus, it becomes a long-term, chronic infection. Chronic hepatitis C can result in serious, even life-threatening health problems like cirrhosis and liver cancer. People with chronic hepatitis C can often have no symptoms and don't feel sick. When symptoms appear, they often are a sign of advanced liver disease. There is no vaccine for hepatitis C. The best way to prevent hepatitis C is by avoiding behaviors that can spread the disease, especially injecting drugs. Getting tested for hepatitis C is important, because treatments can cure most people with hepatitis C in 8 to 12 weeks.

Figure 2.2. Medical Discourse Exemplified. Adapted from

<https://www.cdc.gov/hepatitis/hcv/index.htm>

2.3.3. Classroom Discourse

Classroom Discourse defines interactions that take place in educational settings among students or between them and teachers; as asserted by Nuthall (2019) who suggests that “The term Classroom Discourse refers to the language that teachers and students use to communicate with each other in the classroom”. Moreover, it includes the linguistic elements of discourse encompassing the language used by the teacher and the learners, as well as teacher–learner and learner–learner interactions, along with the non-linguistic elements that take the shape of paralinguistic gestures, prosody, and silence, all of which constitute the observable dimension of Classroom Discourse (Tsui, 2020). This type of discourse is exemplified through the following passage:

Teacher: Oh look! What's that?

Jack: It's a mammal!

Whatever the teacher's initial intentions. Jack turned the sequence into a chance to display his knowledge. The teacher was impressed, but also a bit surprised by a response that did not match her expectations, so she flashed him a quizzical look. Again, he transformed her look into an opportunity to display some more knowledge:

Teacher: Oh look! What's that?

Jack: It's a mammal!

Teacher: ((flashes Jack a quizzical look))

Jack: Well, can't you see, it has hair?

While the teacher may have been intent on simply drawing students' attention to the animals (a real live bear!). Jack was creating a classroom lesson. This viewing might lead to a closer look Jack's knowledge and his enthusiasm for learning and for piping up with extra tidbits of information could become an asset for everyone not only on the field trip, but also back in the classroom.

Figure 2.3. Classroom Discourse Example (Rymes, 2015, p. 107)

2.3.4. Scientific Discourse

Scientific Discourse has been previously described by Wehrle et al. (1982) as *authoritative discourse*. Additionally, they further defined authoritative speech as a substance within itself, marked by semantic limitations and rigidity, meaning it has its own structure and content that is defined by specific rules and constraints. However, nearly every discourse, including a scientific expression, is directed at an audience that will intentionally reflect an author. In actuality, the standard norm of monologic Scientific Discourse portrays itself to be authorless, i.e., it aims to convey information objectively, focusing on the content rather than the individual who wrote it. A greater emphasis on the complications and context that prospective audiences may contribute to Scientific Discourse can affect the interaction.

Furthermore, academic research is inherently heteroglossic due to the general standards of the discipline, since it incorporates multiple voices and perspectives due to the diversity of ideas and approaches within the field. Scientific Discourse authors are required to engage in discussion with others in their field and previous studies on a particular research subject.

About 15 years ago, Odlin heard a talk from Klaus Lackner-the physicist who popularized the idea of removing carbon from the atmosphere. It clicked. "It was like, Oh, this is right because there's no way we're going to get off fossil fuels in the next 50 years," he recalls thinking. "We're going to have to pull it down."

A recent assessment from the Intergovernmental Panel on Climate Change echoes this idea. In addition to swiftly cutting emissions, the panel estimates that we'll need to remove and sequester about 10 gigatons of CO₂ from the atmosphere per year by 2050, and double that by the end of the century. Right now, there are about 2,000 square kilometers' worth of seaweed farms in the world; to sequester a tenth of a gigaton of carbon annually would require 73,000 square kilometers-equivalent to planting a nearly half-kilometer-wide belt of seaweed farms along the entire United States coastline, according to a report from the National Academies of Sciences, Engineering, and Medicine.

Figure 2.4 Demonstration of Scientific Discourse. Adapted from

<https://www.nationalgeographic.com/>

2.3.1. Media Discourse

Media Discourse was defined by Kozhemyakin (2010) as the act of creating and delivering speeches within the realm of mass media, emphasizing that Media Discourse is centered around specific themes, and is shaped by various socio-cultural factors. In other words, it encompasses the production and dissemination of verbal or written content in the media, which is influenced by the societal and cultural context in which it exists. Additionally, it can be viewed as an action in socio-cultural interaction that reflects the conscious mechanisms of communication participants (Zheltukhina, 2004).

Media Discourse, as outlined by Slyshkin (2000), possesses several key characteristics. Firstly, it involves a sense of "distance" between the speaker or writer and the audience, resulting from factors, such as: mass distribution and limited direct interaction. Secondly, Media Discourse involves both individual and collective perspectives, as media messages often represent broader group interests. Lastly, Media Discourse addresses an unknown and diverse audience, without knowing specific details about each recipient. These characteristics collectively contribute to the unique nature of Media Discourse within mass media communication. Media Discourse can take various forms according to Nurgazina (2020), including news, advertising, and websites, each serving specific purposes in communication. News texts provide information about current events, while advertising texts aim to promote products or services. Websites serve as another platform for Media Discourse, offering a variety of content and communication, and it is exemplified through the following:

Two recent cases in the South have raised fears that journalists and activists who use their constitutional rights against police power will be targeted by the state. Worse, establishment media don't seem terribly troubled by this.

In North Carolina, Matilda Bliss and Veronica Coit, two reporters from the progressive **Asheville Blade**, were convicted of "misdemeanor trespassing after being arrested while covering the clearing of a homeless encampment in a public park in 2021." The judge in the case "said there was no evidence presented to the court that Bliss and Coit were journalists, and that he saw this as a 'plain and simple trespassing case'" (VoA, 4/19/23).



Figure 2.5. Media Discourse Exemplification. Adapted from <https://fair.org/>

2.4. ESP Vs. GE

It goes without saying that ESP is more specialized, targeted, and focused on granting learners the language skills and knowledge required for particular fields or professions, whereas GE is more general and broader, and seeks to give learners general language skills that can be applied in a variety of contexts. As Potacor (2002) affirms: "teaching and learning

ESP represent a continuum of general English on a higher, more specified level, integrating occupational, linguistic and social skills in order to prepare students for work and life” (para. 12).

Basturkmen (2006) suggests that ESP has a distinct goal and seeks to assist learners in achieving it as efficiently as possible, in contrast to general English language teaching, which generally has no clear endpoint. The practical emphasis of ESP may give the idea that it is more practical in everyday life (p. 6), due to its focus on providing learners with the language skills and knowledge that are directly applicable to their real-world situations. By addressing the specific language needs of learners in their professional or academic fields, ESP equips them with the practical language tools required to communicate effectively in their specific contexts, for instance, in an ESP class for Computer Science students, needs analysis may reveal a greater need for developing programming and coding skills. In this case, the syllabus would be designed to prioritize activities and materials that enhance students' programming proficiency. Additionally, there may be a focus on technical reading skills to ensure students can comprehend and analyze complex Computer Science research papers. General English language instruction, however, does not have a clear endpoint or aim tied to a particular subject or setting. With no particular professional or academic context in mind, it attempts to provide students with a basic foundation in English language, by emphasizing a wide variety of language abilities, such as: reading, writing, listening, and speaking.

Moreover, ESP stands out because it is characterized by a conscious recognition of specific language needs, as opposed to simply acknowledging the presence of those needs. Following this advocacy, Hutchinson and Waters (1987) proclaimed that what sets ESP apart is the fact that, it is distinguished by the awareness of specific language needs, rather than the mere existence of those needs (p. 53). Widdowson (1983, p. 163) identified certain distinct features that differentiate ESP and EGP in terms of how the learning purpose is defined and

implemented.

EGP	ESP
<ul style="list-style-type: none"> ● The focus is often on education; ● As the learners’ future needs are impossible to predict, the course content is more difficult to select; 	<ul style="list-style-type: none"> ● The focus is on training; ● As English is intended to be used in specific vocational contexts, the selection of the appropriate content is easier;

Table 2.1. English for Specific Purposes Vs. General English (Widdowson,1983, p. 163).

EGP classes typically prioritize teaching grammar and language structures separately, without considering their practical application in real-life situations. In contrast, ESP classes emphasize on teaching English within the context and specific requirements of the students, ensuring that the language skills acquired are directly relevant and useful in their daily lives (Mohseni, 2008, p. 6).

Language in context → ESP	Language in isolation → EGP
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Table 2.2. ESP VS. GE. (Mohseni, 2008, p. 6)

2.5. English for Science and Technology (EST)

According to Lowe (2009), English for Science and Technology (EST) is a writing style that developed due to scientific and technological progress in a specific context. This writing style is identified by its focus on logical reasoning and clarity, often using a formal

tone and style. The goal of EST is not to showcase language aesthetics, but to achieve accuracy in meaning and logical coherence.

2.5.1. Features of English for Science and Technology

EST stands out from other branches due to its notable features, with grammar and vocabulary playing pivotal roles in defining its distinctiveness. Therefore, Jegede (2020) highlights three features of English for Science and technology:

2.5.1.1. Graphological Features

Which include punctuation and paragraphing.

a) Punctuation

Punctuation is important in scientific and technical writing because it promotes clarity, concision, organization, emphasis, and understanding of the writer's intended meaning. Punctuation can improve writing's effectiveness and readability, which is crucial in fields where accurate communication is crucial.

Jegede (2020) claims that punctuations play a crucial role in aiding readers' comprehension of sentence structures and overall meaning conveyed in passages. The usage of question marks is minimal, indicating that sentences in this particular style of English tend to be lengthy. Furthermore, the sentences predominantly consist of declarative rather than interrogative forms. Consequently, EST exhibits tightly organized structures and focuses on relatively singular subject matters.

b) Paragraphing

Jegede (2020) believes that this style of writing in EST typically features long sentences and many paragraphs. The purpose of this style is to effectively communicate scientific information to readers. Additionally, he suggests that this style has developed over time as a result of the need to convey complex scientific concepts and facts. However, it is important to note that while long sentences and paragraphs may be necessary for conveying

complex information, it is also vital to use effective paragraphing to assist readers navigate and understand the text.

2.5.1.2. Syntactic Features

Which include various characteristics ranging from frequent use of the passive voice, declarative sentences, the present tense, long sentences and complex sentences, to prepositional phrases.

a) Frequent Use of the Passive Voice

In EST, passive voice is both prevalent and valuable, as it contributes to the objectivity and standardization of the text. This linguistic device plays a crucial role in placing emphasis on the objects and the overall content expressed within the sentences (Jegede, 2020). Furthermore, scientific writing frequently employs passive voice to shift the emphasis from the doer to the action or accomplishment itself, as Royds-Irmak (1975) declares, "In science, a sentence is often written in a passive form because the important idea is not who did something, but what was done" (as cited in Master, 1991, p.16)

b) Frequent Use of Declarative Sentences

EST is characterized by a significant prevalence of declarative sentences, in which the author's personal feelings or subjective opinions are intentionally avoided, as the field aims to prioritize objective information and minimize subjective evaluations. In other words, the focus of the text is not on individuals or specific agents, but rather on objective phenomena and the information itself (Jegede, 2020). This characteristic highlights the objective nature of EST, where the emphasis is on presenting and discussing scientific and technical concepts without personal attribution or subjective involvement. The intention is to prioritize the information itself, ensuring a neutral and unbiased approach to communication in the field.

c) Frequent Use of the Present Tense

By employing simple tenses, EST aims to convey information that is applicable and valid across different time periods; that is, it helps to create timeless notions within the text (Li & Li, 2015). Corroborating this standpoint, Jegede (2020) suggests that the scientific disciplines and phenomena discussed in EST are not bound by time limitations. As a result, the present tense predominantly appears in EST texts. This consistent use of the present tense reflects the timeless nature of scientific knowledge and concepts. By employing the present tense, EST aims to convey the enduring relevance and validity of the information being discussed. This linguistic choice helps maintain a sense of timelessness, allowing the scientific principles and phenomena to be understood as universally applicable, regardless of when the text is read.

d) Frequent Use of Long Sentences and Complex Sentences

Yuan's statistical study (1991) revealed that the typical English sentence consists of around 17.8 words. However, when focusing on passages written for EST, the average sentence length increases to approximately 24.4 words. In simpler terms, technical and scientific writing tends to have longer sentences with more information compared to general English writing. Additionally, it is observed that most of the sentences are complex in nature. These sentences often feature relative pronouns, like: 'which' and 'that' (Jegede, 2020). The reason behind this is to ensure a higher level of objectivity and accuracy in the information being conveyed. By using complex sentences with relative pronouns, authors are able to provide more specific and detailed information, which is especially important in scientific and technological writing. This approach allows for a clearer and more precise presentation of ideas, ensuring that the information is reliable and accurate.

e) Use of Prepositional Phrases

According to Jegede (2020), EST passages exhibit a significant presence of prepositional phrases, particularly those using the preposition 'of'. These prepositional phrases play a crucial role in enhancing the organization and comprehension of sentences. By incorporating prepositional phrases, the structure of the sentences becomes more closely aligned, allowing for easier understanding of the content. In simpler terms, the use of prepositional phrases, especially those with 'of', helps to create coherent and logical connections within sentences, making the overall text more accessible and understandable.

2.5.1.3. Lexical Features

Which contain the following:

a) Use of Long and Big Words

Jegede (2020) asserts that longer words are commonly used and appropriate for EST since they may convey information more precisely and are therefore in keeping with the standards of scientific English, which strives to eradicate word or phrase ambiguities. This indicates that by using long words, EST writers can avoid ambiguity and ensure that their writing is clear and concise, which is essential for effective communication in the scientific and technological fields.

b) Use of Nominal Words

In writing about science and technology, nominal words like "motion," "investigation," and "separation" are frequently utilized to convey information in a formal, objective manner. To maintain coherence and a logical flow of information in various fields, it is essential that such words be used. In contrast to other styles of writing, nominal words are frequently used instead of verbs and adjectives in EST writing (Jegede, 2020). Dudley-Evans and St. John (1998) explain that nominalization “enables complex information to be packaged into a phrase that is simple from a grammatical point of view” (p. 78).

c) Frequent Use of Technical Terms

In science and technology fields, technical terms are frequently used, and many of them have specific meanings that go beyond their common English usage. These phrases are helpful for accurately and precisely conveying information within the field, making the content more scientific and well-organized.

According to Nation (2001), technical vocabulary has been systematically classified into four separate categories, presenting a valuable framework for organizing and analyzing specialized terminology. Category 1 consists of words specific to a particular field, with rare occurrence outside that field (e.g., "morpheme" in applied linguistics or "wysiwyg" in computing). Category 2 includes words used both inside and outside the field but with different meanings (e.g., "sense" in applied linguistics or "execute" in computing). Category 3 involves words used in and outside the field, but primarily associated with the specific domain (e.g., "range" in applied linguistics or "memory" in computing). Category 4 comprises words common in the field with no significant specialization (e.g., "word" in applied linguistics or "print" in computing) (p. 198).

The next passage taken from [Deep Residual Learning for Image Recognition](#) incorporates several features for science and technology. It demonstrates the use of syntactic and lexical features:

Residual Representations. In image recognition, VLAD [18] is a representation that encodes by the residual vectors with respect to a dictionary, and Fisher Vector [30] can be formulated as a probabilistic version [18] of VLAD. Both of them are powerful shallow representations for image retrieval and classification [4, 47]. For vector quantization, encoding residual vectors [17] is shown to be more effective than encoding original vectors. In low-level vision and computer graphics, for solving Partial Differential Equations (PDEs), the widely used Multigrid method [3] reformulates the system as subproblems at multiple scales, where each subproblem is responsible for the residual solution between a coarser and a finer scale. An alternative to Multigrid is hierarchical basis preconditioning [44, 45], which relies on variables that represent residual vectors between two scales. It has been shown [3, 44, 45] that these solvers converge much faster than standard solvers that are unaware of the residual nature of the solutions. These methods suggest that a good reformulation or preconditioning can simplify the optimization.

Figure 2.6. Utilizing Lexical and Syntactic Features in EST-Related Text (He et al., 2016, p.

771)

It shows the use of passive voice and declarative sentences. It frequently uses the present tense to describe ongoing actions and processes. For instance, it states that "VLAD is a representation that encodes by the residual vectors," indicating a continuous and active process. Similarly, it mentions that "The Multigrid method reformulates the system as subproblems at multiple scales," highlighting an ongoing action. Additionally, the passage includes complex and long sentences to convey detailed information and establish connections between different ideas. For example, it discusses how "in image recognition,

VLAD is a representation that encodes by the residual vectors with respect to a dictionary”, and further explains that “Fisher Vector can be formulated as a probabilistic version of VLAD”. These complex sentences contribute to the technical nature of the passage. Furthermore, the use of prepositional phrases, such as "in image recognition," "for vector quantization," "with respect to a dictionary," and "between a coarser and a finer scale, ". The passage also demonstrates the inclusion of lexical features, including long and technical words like "probabilistic," "subproblems," "Multigrid," "hierarchical," and "preconditioning." These words are commonly used in scientific and technical domains. Moreover, the passage utilizes nominal words such as "representation," "effectiveness," "reformulation," "optimization," and "solutions". Lastly, it incorporates frequent use of technical terms like VLAD, Fisher Vector, vector quantization, residual vectors, Partial Differential Equations (PDEs), and hierarchical basis preconditioning, reflecting the specialized terminology of the field. Overall, this passage effectively encompasses various features of English for science and technology, contributing to its technical and specialized nature.

2.6. ESP/EST Material

Making effective use of teaching materials is one of any teacher's most important considerations for the effectiveness of her/his teaching method, which, in the first place, are to provide teachers with the necessary resources to facilitate the learning process for their students. What makes teaching materials truly valuable is their flexibility and adaptability, as asserted by Graves (1996, p. 27) who argues that: “Teaching materials are tools that can be figuratively cut up into component pieces and then rearranged to suit the needs, abilities, and interests of the students in the course”.

ESP is no different in this regard, its teaching materials are defined as any pedagogical tasks and texts that make teaching/learning easier to implement a pedagogical program (Widodo, 2017). It also should not only help students in understanding new ideas, but also

offer them assistance and direction to improve their learning. Additionally, they ought to encourage and inspire learners to dive deeper into the subject, encouraging them to pursue further studies and expand their knowledge. In essence, effective teaching materials should increase students' access to, interest in, and empowerment over their learning.

2.6.1. Typology of ESP materials

ESP materials can be provided in a variety of ways, to accommodate the various learning styles and preferences of the students. Kennedy and Bolitho (1984) assert that ESP materials are useful for getting students to read before understanding, read before writing (such as summarizing or paraphrasing), listen when teachers read for them, speak when the teacher encourages them to communicate, or completes different tasks when the teacher combines different skills. To recapitulate, ESP materials can be categorized into five main types: reading, listening, writing, speaking, and integrated materials that combine all four language skills.

2.6.1.1. Materials for Reading

According to Kennedy and Bolitho (1984) reading materials are not just serving as a way of delivering content to students, but also play the role of activities that give students the chance to practice their reading skills, improve their vocabulary, and deepen their comprehension of grammar and sentence structures, and by consulting dictionaries students may discover new terms and phrases that are particular to their field of study or career and utilize them in context.

Specifically, the use of authentic materials in the classroom serves several purposes, one of which is to expose the student to a great deal of genuine speech. Additionally, as authentic resources are more likely to cover themes that students are interested in, they may advocate reading for enjoyment. It would appear that reading exercises for learners using a variety of authentic materials are crucial. Nutall (1996) reiterated that “authentic texts can be

motivating because they are proof that the language is used for real life purpose by real people” (p. 172). The majority of the time, employing real-life content in EFL classes helps students' reading proficiency.

Furthermore, Computer Science students may benefit from diagrams or flowcharts that illustrate the steps of a programming process or the design of a computer network, along with graphs or charts that could be used to show statistical data related to Computer Science research or trends in the industry.

2.6.1.2. Materials for Writing

Using writing materials in ESP allows students to develop their writing skills within the context of their field of study or profession. These materials are not intended to promote stylistically sophisticated writing, but rather to focus on building students' knowledge of specific vocabulary (jargon), and grammar structures that are commonly used in their field. Kennedy and Bolitho (1984) emphasize the importance of coherence when writing by stating:

Some adult ESP students do not experience too many problems with coherence as there is classroom evidence to suggest that the ability to organize writing coherently is largely transferable from the mother tongue. Conversely, an absence of this ability in English in an adult student is bad news for the ESP teacher as it may signal lack of practice in writing coherently in any language. (pp. 86-87)

Writing materials for Computer Science students could include technical writing skills specific to their field, such as technical reports, user manuals or software documentation.

2.6.1.3. Materials for Listening

Kennedy and Bolitho (1984) propose that the task of choosing appropriate listening materials might be challenging, since it requires careful attention to ensure that students stay engaged and motivated throughout the listening activity, while minimizing the chance of boredom.

Within the realm of ESP, listening materials include various tasks, ranging from participating in meetings, or professional development seminars and workshops, to listening to podcasts or online lectures. As a result, students must be capable of identifying and extracting vital information, including -but not limited to- key ideas represented in the speaker's tone and perspective, register shifts and more. As such, educators must be mindful of their students' needs and reactions to create a conducive learning environment. This is especially relevant in fields like Computer Science, where technical listening skills are essential for understanding complex topics, for instance, students may need to listen to programming instructions or participate in group discussions on the latest trends in the industry.

2.6.1.4. Materials for Speaking

It is important to note that speaking activities must be motivational and engaging in order to maintain students' attention and investment in the learning process, as highlighted by Kennedy and Bolitho (1984), since students become more motivated, they also become more comfortable and confident in speaking. Additionally, the teacher should encourage students to reflect on their performance and offer constructive feedback, because doing so may help them determine areas that need work and come up with ways to overcome difficulties. A variety of activities, including role-plays, conversations, debates, presentations, and simulations, can be used as speaking materials. By giving students the chance to practice speaking in authentic situations, these activities assist students in improving their speaking skills. Furthermore, these benefits apply to various fields, including Computer Science. For instance, speaking activities like group discussions on programming languages, debates on the ethical implications of technology, presentations on new software developments, or role-plays simulating professional meetings or negotiations can engage Computer Science students in meaningful language practice and develop their communication skills.

2.6.1.5. Materials for Integrated Skills

Integrated skills materials are learning activities that incorporate different language skills, such as listening, speaking, reading, and writing within the same activities, in order to improve learners' overall language competency. According to Read (1985), the combination of several competencies in a communication act is recognized as skill integration. Materials for integrated skills activities refer to the resources or tools that are used to facilitate the learning process, which are perfectly exemplified through presentations or debates, where learners are required to read and research a topic, listen to arguments presented by their colleagues, speak to defend their own position, and write notes or a summary of the key ideas as a way to encourage critical thinking and effective communication. The same applies to Computer Science students through certain activities that are specific to their field, such as: technical presentations or code reviews and much more.

2.7. ESP Teachers' Role

The teacher should have a deep understanding of the language, as well as the specific terminology and communication styles relevant to the students' field. Hutchinson and Waters (1987) put forth a statement that summarized teachers' role by saying that: "tell me what you need English for, and I will tell you the English that you need" (p. 8). Dudley-Evans and St. John (1998) argued that the term "ESP Practitioner" is more appropriate than "ESP Teacher" due to the additional responsibilities that come with teaching ESP as compared to English for General Purposes (EGP). The ESP Practitioner not only provides language instruction, but also takes on tasks, such as: developing course materials, designing syllabi, collaborating with subject-matter experts, conducting research, evaluating courses and students, and providing feedback. Belcher (2006) suggests that ESP approach necessitates that language instructors are open to exploring unfamiliar areas and engaging in introspection to determine if the language practices taught in a target discourse community actually fulfill the learners'

objectives. Moreover, while linguistic competence is an essential aspect of being an ESP teacher, it is necessary to possess sufficient knowledge and proficiency in the subject.

In order to prevent students from experiencing any potential setbacks or losing interest in learning a foreign language when they experience challenges, ESP instructor should help students acquire a variety of abilities in all sorts of communicative tasks. It is extremely vital to highlight the crucial function that ESP teacher's training plays, since that process expects them to be highly competent and targeted in order to suit the demands of the students. An ESP instructor, then, has numerous duties to play and many tactics to employ. The ESP instructor is responsible for all the responsibilities listed shortly, according to Fiorito (2005):

- Organizing and designing courses: ESP teachers should generally be extremely helpful in arranging and developing courses, assuring suitable materials, and devoting time and effort to student aid.
- Setting goals and objectives: The ESP instructor ought to determine the course's aims and objectives, as well as the learning environment in ESP classrooms. S/he ought to additionally be cognizant of her/his students' competencies, since they are crucial to the creation of any ESP lesson or course.
- Establishing a learning environment: A positive atmosphere for learning necessitates educators who teach ESP to pay close attention, provide opportunities for engagement, and instill enthusiasm in students via resilient interpersonal techniques.
- Evaluating students: Strategic learning encompasses students' assessment, acknowledging challenges, and developing improvements to further the ESP instruction while leveraging Information and Communication Technology (ICT) for greater educational opportunities. (p. 1-2)

2.8. Role of ESP Teaching Materials

To effectively teach an ESP class, it is important for teachers to possess certain qualities that can assist their students in achieving their goals. ESP students require a strong foundation in the fundamentals of their field, including a mastery of grammar rules and the acquisition of specialized vocabulary. In addition to these core skills, it is also important for ESP teachers to address other key areas of language learning, for instance teaching cultural aspects, correct pronunciation, and encouraging active participation from both the teacher and students. As a result, materials designed for teaching ESP can be highly beneficial.

2.8.1. Teaching Vocabulary

Vocabulary is a vital part of effective language teaching and learning as defined by Richards and Renandya (2002, p. 255) “vocabulary is a core component of language proficiency and provides much of the basis for how well learners speak, listen, read, and write”. In other words, vocabulary is a set of words that a learner needs to know in order to communicate effectively and express themselves more clearly and accurately. To support language learners in achieving their objectives, it is crucial that they employ specific terminology and vocabulary appropriate to their professional or academic setting.

In the context of ESP, vocabulary is even more important since students frequently focus on acquiring language that is specific to their career or academic field, as highlighted by Kennedy and Bolitho (1984, p. 56) who say that “specialized texts of any sort, whatever written or spoken, exhibit various characteristic lexical features”. This indicates that the vocabulary they need to learn might not be the same as what is generally taught in typical language learning settings. In light of this, it is crucial for ESP students to comprehend both the text's meaning and specific terminology. This serves to underline the importance of terminology in the teaching and learning of ESP as pointed out by Macaro (2003) to the importance of vocabulary in foreign language learning, particularly in specialized fields

where sub-technical vocabulary plays a critical role in enhancing the teaching and learning process within an ESP classroom.

In summary, selecting appropriate ESP materials with the right vocabulary content is essential for learners to acquire the language skills and terminology necessary for success in their field of study or career. Therefore, it is important to consider learners' needs, proficiency level, and the lexical features of the materials when making such selections.

2.8.2. Teaching Grammar

Although vocabulary is unquestionably important in ESP classes, successful communication requires more than just words. Grammar, which is defined by Ur (1997) as "the way words are put together to make correct sentences" (p. 75), is essential for supporting cohesive and straightforward communication and helping students correctly convey their intended meaning. However, the lack of its comprehension can cause confusion and misunderstandings even when learners possess the required vocabulary.

Differently, students find it challenging to comprehend and employ grammar in written or spoken form throughout daily interactions. It is generally acknowledged that authentic materials have a tendency to be more current and modernized than textbooks, and encouraging and stimulating for the learners. Additionally, authentic materials assist students in preparing for "actual" communication by giving them more authentic information and language that has not been altered, directing them toward the grammar and vocabulary they require for the situation at hand, and fostering their interests and drive in the classroom.

Skenderi and Ejupi (2018) explore different approaches to teaching grammar in ESP classes, specifically focusing on scenarios where instructional materials are available and situations where there are no ready-made materials specifically designed for teaching grammar, for instance, introducing the present simple tense can begin by prompting learners

to describe their regular routines, such as daily, weekly, or monthly activities. This serves as a foundation for getting familiar with the grammar related to their specific field.

2.8.3. Teaching Culture

It is often believed that including cultural elements into the teaching of foreign languages adds another dimension and improves student learning. Culture, which according to Kramersch (1998, p. 10) is defined as, “membership in a discourse community that shares a common social space and history, and common imaginings”, is deemed essential in textbooks and a vital component without which teaching a language is virtually impossible (Valdes, 1986, p. 121). In other words, teaching a language without incorporating its cultural elements would result in an incomplete and insufficient approach to language education.

Authentic materials serve as the most effective resources for teaching cultural aspects, as they establish a connection between the classroom and the real world. Thereby, bringing a sense of reality into the learning environment (Reid, 2014), i.e., by using authentic materials, such as: newspapers, videos, interviews, or real-life texts, students gain exposure to genuine cultural expressions, practices, and contexts. These materials provide an authentic representation of the target culture, enabling learners to develop a deeper understanding of its values, customs, and ways of communication. Teaching culture in ESP, just as it is in other language teaching contexts, remains essential with using authentic materials and takes on a different focus since it does not only enhance cultural understanding but also facilitates the development of domain-specific language skills, increasing learners' proficiency and confidence within their professional or academic setting.

2.8.4. Teaching Pronunciation

ESP teaching revolves around effective communication as its core principle (Dudley Evans & St. John, 1998); consequently, pronunciation, as a key component of communication, holds a significant role in achieving this objective. By prioritizing the

development of clear and accurate pronunciation skills, ESP instructors empower learners to effectively convey their messages within their specific field.

Proper pronunciation instruction using audiolingual and visual methods can be considered enjoyable, simple, and beneficial for both teachers and their students. Numerous techniques exist for teaching pronunciation. Cheng (1998) suggests a number of them, recommending the accompanying methods to teach pronunciation:

- 1) Providing relevant materials within student's courses of study: teachers should select a number of papers from different genres to serve as examples for students to practice association, rhythm, accent, or intonation. The pronunciation lesson, in the perspective of the students, is pertinent to their normal academic work and subject of study. They consequently take an active role in their collaborative or teamwork.
- 2) Songs, games, and tongue twisters may all be used to motivate students in a pronunciation learning experience. This is important since motivation is a key element in pronunciation.
- 3) Monitoring student development: Tracking student advancement is essential for preserving students' motivation.

Therefore, it is crucial to select the techniques that are suitable and acceptable for the learners' age, attitude, capabilities, and preferences. Additionally, the scientific subject matter that the students are pursuing is crucial in ensuring that English is taught in a way that adheres to their particular disciplines and fits within their specific fields (for example, English for Science and Technology, Business English, etc.).

2.9. ESP Materials Selection

Selecting appropriate ESP materials is essential for effective teaching and learning. Inappropriate selection and use of materials can negatively impact both teachers and students. To avoid this, teachers should consider the needs and goals of the students, the context and

objectives of the course, and the availability and suitability of the materials. Materials that are engaging, challenging, and relevant to students' needs and interests are more likely to promote effective learning and achieve teaching goals.

Ellis and Johnson (1994) identify two levels of ESP materials selection. The first level involves selecting coursebooks and materials at the beginning of the course, while the second level involves selecting specific items from the coursebook for individual lessons.

2.9.1. Authenticity

When it comes to materials for teaching ESP, authenticity is a critical component, as Carver (1983) suggests “Authentic material is intrinsic to an ESP course simply because of the orientation towards purpose”, this implies the primary objective or goal of an ESP course which focuses on teaching language skills that are specifically relevant to a particular field, where the "purpose" refers to the specific language needs of learners within their chosen professional or academic domain. According to Ellis and Johnson (1994), authentic material refers to any materials used in language learning that were not created specifically for language teaching; but were taken from the real world, in order to prepare learners to communicate effectively in their professional or academic fields. It is essential to use genuine resources that accurately depict the language used in real-life situations within their specific area of expertise.

Since they are not created for language teaching, authentic materials provide learners with exposure to the language as it is really used in everyday life with no artificial explanation, as stated in Longman Dictionary of Language Teaching and Applied Linguistics.

In language teaching, the use of 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.

Although authentic materials are unquestionably helpful for language learning, it is important to note that they may also be quite challenging, as Richards (2001, p. 253) explains that their use in language learning can create a burden for teachers and learners because they often contain difficult language, unnecessary vocabulary, and complex structures. Along the same lines, Martinez (2002) underlines the cultural bias, which refers to the cultural elements in learning materials that are specific to a particular culture and may be unfamiliar to learners from different cultural backgrounds, and mixing of structures which involves variations, informal language, or regional dialects in authentic materials that can add an extra layer of challenge for learners, especially those at lower proficiency levels since this type of materials often reflect the natural usage of the language, which can involve variations, informal language, or regional dialects. This mixing of structures can pose a challenge for learners who are accustomed to more controlled or standardized language instruction. This can be a source of confusion for both students and teachers, potentially hindering the effectiveness of language instruction.

2.9.2. Simplicity

When using authentic materials in ESP teaching, it is important to take into account the students' level of proficiency to ensure that the materials are suitable. One effective strategy for dealing with challenging authentic texts, according to Berardo (2006, p. 65), is to simplify them according to the students' abilities. This may involve making adjustments, such as: shortening the text and using simpler language, and as a result, students can better engage with the material and tasks and develop their language skills with increased motivation and confidence.

2.9.3. Complexity

Authentic materials, as discussed by Richards (2001) and Benavent et al. (2011), pose a considerable obstacle due to their inherent complexity. These materials often incorporate advanced language, unneeded vocabulary, and challenging linguistic patterns, which can present difficulties for both learners and teachers. Learners may find it challenging to grasp the meaning and finer details of authentic texts, hindering their language acquisition and comprehension skills. The presence of unfamiliar vocabulary and complex grammatical structures can further impede their progress.

Additionally, teachers are faced with the task of effectively navigating and adapting these materials to meet the varying proficiency levels of their students. They need to carefully select, modify authentic texts, and provide necessary support to facilitate comprehension. This requires considerable time, effort, and expertise on the part of the teacher. By addressing the complexity of authentic materials, teachers can create a more supportive learning environment, enabling learners to engage meaningfully with the texts and enhancing their language proficiency over time.

2.9.4. Consistency

Selecting appropriate materials is vital for an effective English for Specific Purposes (ESP) course. The materials chosen should be tailored to the specific needs, goals, and characteristics of the learners. According to Mirela (2017) when selecting materials for an ESP course, there are various features that should be taken into account:

- **Students' Age and Personalities:** Age is an important factor to consider when selecting materials for a mixed-class composed of students belonging to different age groups, providing diverse and challenging tasks for teenagers to keep them focused, and accommodating the needs of adult learners.
- **Students' Needs:** creating a course that reflects their specific needs and objectives.

- Curriculum: Modern language curriculum prioritizes skill development over content, and ESP teachers have a choice of various coursebooks that cover the same communicative functions and language, i.e., their choice of lessons may have different titles, they generally address the same subject. The main focus of these lessons is to develop students' communication skills and language proficiency in relation to the specific context of their field or area of specialization.
- Students' linguistic proficiency: the teacher should select appropriate materials and activities considering their students' level of linguistic proficiency.

In conclusion, the selection of suitable materials for an ESP course requires a thorough consideration of various criteria, as discussed by the scholars in the field including Ellis and Johnson (1994), Mirela (2017). These criteria encompass: learners' language proficiency and types, relevance of the language and skills covered, learners' age and cultural background, appropriateness of methodology or style, adequacy, motivation, sequence, diversity, and acceptability. Overall, the consensus among these authors emphasizes the importance of selecting materials that are tailored to the learners' specific needs, goals, and characteristics in order to promote effective learning outcomes in an ESP course.

2.11. Conclusion

In conclusion, it is crucial to address the main concern of this chapter, which revolves around ESP learners studying English for Science and Technology. The chapter provided insights into the unique aspects of EST and the considerations taken into account by teachers. Throughout the chapter, discourse types were explored, the distinction between ESP and GE was discussed, the typology of ESP materials was examined, and the key role of ESP teaching materials and their selection were highlighted.

CHAPTER THREE: REALITY OF EST INSIDE CLASSRROM

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3.1. Introduction

The current chapter presents the results of the study that aimed to investigate whether Computer Science students study EST or just GE. The chapter begins with a description of the sample population, research design, and methodology, which includes two research tools: a questionnaire for students and an interview with their English language teacher. Subsequently, the chapter offers an analysis and interpretation of the obtained data to address the research questions and confirm or reject the research hypothesis. Moreover, the chapter then proceeds with a statistical analysis to test the correlation between students' questionnaire responses and the teacher's interview responses. Finally, it concludes with a summary of the findings and their implications.

3.2. Data Collection

This research incorporates the utilization of two distinct methods of data collection, with the aim of gathering diverse perspectives and insights from both students and their teacher. Mackey and Gass (2005) highlighted that “the use of multiple research techniques and multiple data sources contributes to the credibility of the investigation” (p. 164), and by using two different instruments analyzing and comparing data from several sources boost the credibility and dependability of the research results.

3.2.1. Questionnaire

The questionnaire served as a primary tool for gathering essential data from second year Computer Science students. The questions administered to assess the presence of technical language and the effectiveness of ESP courses. The questionnaire was selected for its reliability and assurance of maintaining confidentiality. Anonymity in the questionnaire encourages participants to freely and honestly express their thoughts without feeling any pressure. Richards (2005, p. 60, as cited in Bouklikha, 2016, p. 135) explains that “Questionnaires are one of the most common instruments used. They are relatively easy to

prepare, they can be used with large number of subjects, and they obtain information that is easy to tabulate and analyze”. In the same vein, Ellis (2004) argues that the questionnaire method holds significant value and is widely preferred. The author specifically advocates for a survey questionnaire format that includes Likert scale items that requires learners to assess and report on different aspects of their language learning, making it a favored choice among researchers.

3.2.2. Interview

In this study, another data collection method employed is "interview," more specifically, a structured interview. This particular approach follows a predetermined structure, wherein all questions are prearranged in advance and presented in a consistent sequence. Richard (2001, p. 61) asserts that: “Interviews allow for a more in-depth exploration of issues than is possible with a questionnaire, though they take longer to administer and are only feasible for smaller groups”. Similarly, Wallace (1998) expresses a preference for interviews as a valuable research method, especially according to his own words “when we want to investigate people’s views, attitudes, experience etc., in depth”

3.3. Population and Sampling

In this study, the realm of ESP courses is delved into in order to shed light on the presence of technical language. With the participation of both students and their teacher, this research aims to provide a comprehensive exploration of the current state of English classes, offering valuable insights and perspectives.

3.3.1. Students

The study is exclusively centered on second year students at 08 Mai 1945 University of Guelma department of Computer Science, where the target population comprises 4 groups consisting of 88 students. The choice of second-year students was motivated by the fact that they have a clear purpose, driven by their specific needs and aspirations, in addition to the

great importance of the English language in their field of study. As adults, they possess a deep understanding of the language they seek to master and possess a conscious awareness of the precise language aspects that must be addressed to fulfill their needs. Accordingly, a sample of fifty 50 students, out of a total population of 88 were involved in the study.

3.3.2. Teacher

As part of this study, an additional group is included, comprising a single teacher who was purposefully chosen from the Computer Science department of 08 Mai 1945 University of Guelma. She is the same individual, who teaches the students that are being questioned. This unique aspect adds an important perspective to the research.

3.4. Administration of Students' Questionnaire and Teacher's Interview

The questionnaire was delivered hand in hand; and a face-to-face approach was adopted to interact directly with the participants. The process began by scheduling a meeting in a suitable location, where the purpose of the study was introduced and explained. It is worth noting that the participants were asked to answer the questionnaire after they had completed their exam. The questionnaire was distributed to each participant, and detailed instructions were provided to ensure a clear understanding of the questionnaire's objectives and guidelines. Participants were given ample time to complete the questionnaire, with the possibility to address any questions or concerns that may arise. Furthermore, the questionnaire was administered on two separate days. On the first day of administering the questionnaire, a total of 29 students provided their responses, and 21 students participated the following day. Obtaining responses from all participants in the questionnaire proved challenging as some individuals declined to answer, explaining that they were too tired from the exam and preferred not to participate. Despite this, the atmosphere during the questionnaire administration was positive and welcoming. This welcoming atmosphere played a crucial role

in promoting honest responses from the students, ultimately contributing to the overall quality and reliability of the collected data.

The interview with the teacher was administered during the exam period too in a respectful and accommodating manner. A convenient time was scheduled to meet with the teacher. Initially, the interview began by introducing the work and providing a brief overview of the research topic and purpose of the study. This introduction allowed the teacher to become acquainted with, and understand the context of the interview.

3.5. Description of the Students' Questionnaire

This questionnaire is directed to Computer Science students. Most queries are closed-ended, where participants are required to choose the most suitable answer from a set of predetermined options. The questionnaire includes "others (please specify)" in the follow-up questions to enable respondents to provide additional information that may not be covered by the predetermined options. Furthermore, to ensure the inclusivity of the questionnaire for students with varying degrees of English and French proficiency, a translation into Arabic was provided. Moreover, an explanatory note has been incorporated into the questionnaire to clarify the definitions of ESP and GE. The questionnaire is divided into four primary sections and contains a total of 31 questions.

Section 1: General Background

Is an introductory section that collects general information about the respondents' demographic and educational background related to the English language. It includes three questions that aim to determine the respondents' age, years of studying English, and their proficiency level in English prior to starting their university studies.

Section 2: ESP Needs Analysis

It encompassed mainly 9 questions and its objective was to gather information about which language "English or French" they need to focus on, and its importance in the

participants' area of study or work, their reasons for studying English, and if they know that they are supposed to study ESP not GE, and how they refer to their module and their interest in taking an ESP course specifically designed for students of Computer Science are explored. The section also aims to assess the extent to which the participants' current English language curriculum covers technical topics related to Computer Science and whether they feel that their English language classes helped them develop good English related to their field of study or not. Finally, about students' proposed activities for their English course, and if the allocated time is adequate.

Section 3: EST Generalities

This section focuses on EST instruction and learning. It consists of 4 questions that aim to gather opinions on various aspects of EST education. The first question explores the optimal way to deliver English instruction, while the second question assesses the importance of interpreting visual information in EST education. The third one examines the role of specialized vocabulary in EST courses, and the fourth question investigates the potential benefits of exposure to authentic materials for learning EST in Computer Science.

Section 4: EST in Classroom

It explores the respondents' understanding and usage of technical English related to Computer Science, their confidence in using it professionally, and whether their teacher provides texts for translation or not. The section also examines the presence of practical exercises and activities for practicing technical language, the recognition and use of common Computer Science abbreviations, the use of EST textbooks, preferred learning methods, audio-visual materials used, and the incorporation of pronunciation exercises. It further investigates cultural difficulties in translation, the provision of relevant cultural materials, and concludes with a rating of the English course quality and an opportunity for additional

comments or suggestions. The final question was the one left open-ended in an attempt to explore participants' views, thoughts, and feedback on the topic

3.6. Description of Teacher's Interview

An interview was conducted with a teacher of English at the department of Computer Science. Consisting of 32 questions that included both closed and open-ended formats. The questions were organized into four sections:

Section 1: General Background

Designed to gather background information on the teacher being interviewed. It consists of 4 questions focused on the teacher's academic qualifications, general teaching experience in English, and experience teaching English in the department of Computer Science.

Section 2: ESP Needs Analysis

It contains 10 questions, and seeks to gather information about the instructor's ESP background and training, Computer Science students' motivation and challenges faced in teaching them English, appropriateness of the allocated time for the English module, the extent of freedom to modify the Computer Science syllabus, and collaboration with other English instructors. It also explores the instructor's perspective on the current syllabus effectiveness in meeting students' goals and expectations and how students can improve their English in the subject area.

Section 3: EST Generalities

This section consists of 8 questions related to EST teaching and learning. The questions cover a range of topics, such as: the best way to provide English instruction, the differences between teaching EST and GE, the role of pronunciation in understanding scientific and technical information. In addition, use of technology and online resources in EST learning, and the effectiveness of authentic materials in improving students' technical

English for Computer Science studies. The section also explores cultural considerations that need to be taken into account when teaching EST and how integrated skills activities can help students develop their language skills.

Section 4: EST in Classroom

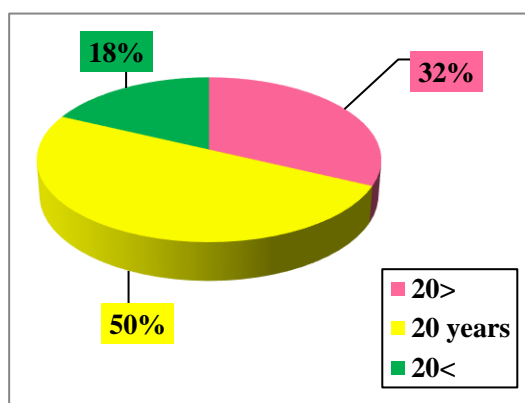
Focus on the intersection of language teaching, particularly in the context of teaching English to Computer Science students. The questions cover topics, such as: the use of technical language, the incorporation of culture into courses, the types of teaching materials used, and the emphasis placed on different language skills. There are also questions about specific language functions and pronunciation exercises, as well as potential challenges related to media resources in the classroom. Overall, these questions suggest an interest in how language teaching can be tailored to meet the needs of Computer Science students and support their technical skills development. The final question was the one left open-ended in an attempt to explore teacher's views, thoughts, and feedback on the topic.

3.7. Analysis of the Questionnaire Findings

Section One: General Background

Question (1): How old are you?

Sector 3.1: Students' Age

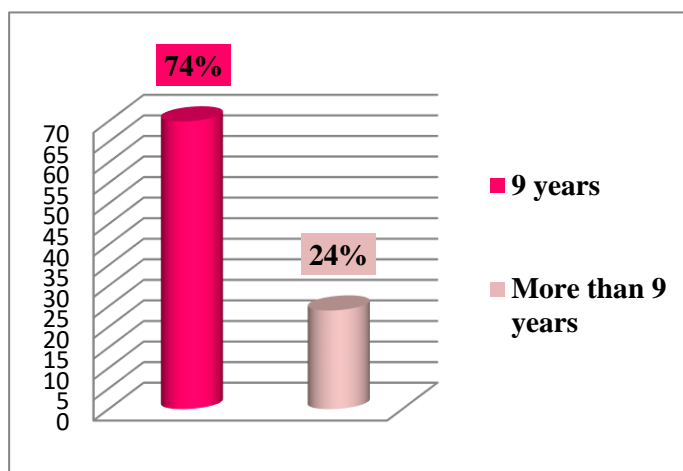


From sector 3.1, the statistics demonstrate that half of the students, comprising 50%, are specifically 20 years old. An additional 18% of the students are older than 20, while 32%

are younger than 20. This indicates that they are mature and self-aware group of learners, who can identify their weaknesses, preferences, and goals. They are well-positioned to provide valuable insights into how the English course should be designed and delivered to meet their needs. This is claimed by Dudley Evans & St. Johns' (1998) (See chapter 1, p.4) where ESP is primarily intended for adult learners and is commonly offered either in tertiary level institutions or as part of professional development programs in the workplace, however, it has the potential to be utilized by students in secondary school. In this concern of age, Kennedy and Bolitho (1984) say that "The older a learner is, the more likely he is to have his own definite ideas on why he is learning English. The utility of learning English is likely to be more apparent" (pp. 13-14).

Question (2): How many years have you been studying English?

Graph 3.1: *Participants' English Language Learning Experience*

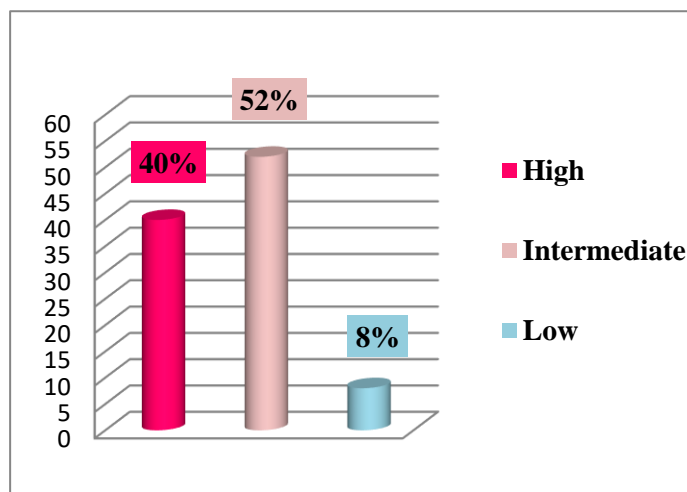


Graph 3.1 indicates that the large majority of the respondents (74%) have studied the English language for a duration of "9 years". It is worth noting that nine years of English study can certainly equip students with a strong command of general English. After gaining a solid grasp of general English, students can then proceed to study specific vocabulary and grammar related to their areas of interest or academic focus. This could include specialized

terminology and complex grammatical structures. Thus, it is high time these students were exposed to EST.

Question (3): How would you describe your English language proficiency level prior to starting your university studies?

Graph 3.2: *Students' Level*

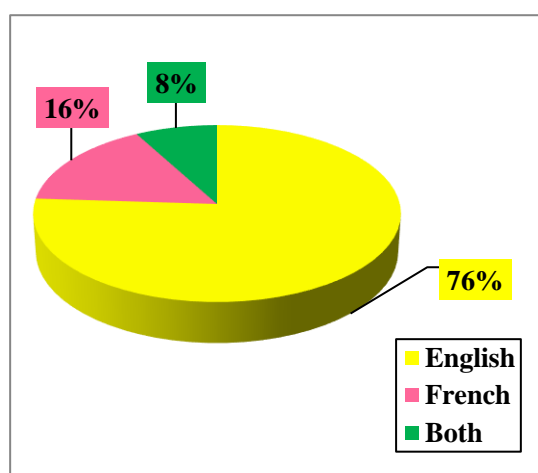


Based on the provided statistics from Graph 3.1, 40% of them claim to have a high level of English, 52% believe they have an intermediate level, while only 8% claimed to have a low level of English proficiency, it appears that individuals in the sample have a strong proficiency in English that would serve as a solid basis for their learning of English for Specific Purposes (ESP). This means that they have a good understanding of the fundamental principles of the language, which would allow them to acquire more specialized vocabulary and communication skills that are relevant to their specific areas of interest or professional fields. By learning ESP, they could effectively communicate their ideas, opinions, and needs with greater precision and clarity. Dudely Evans and St. John (1998) affirm that “ESP is generally designed for intermediate or advanced students”

Section two: ESP Needs Analysis

Question (1): Which of these languages do you consider its proficiency is more important for your studies and work?

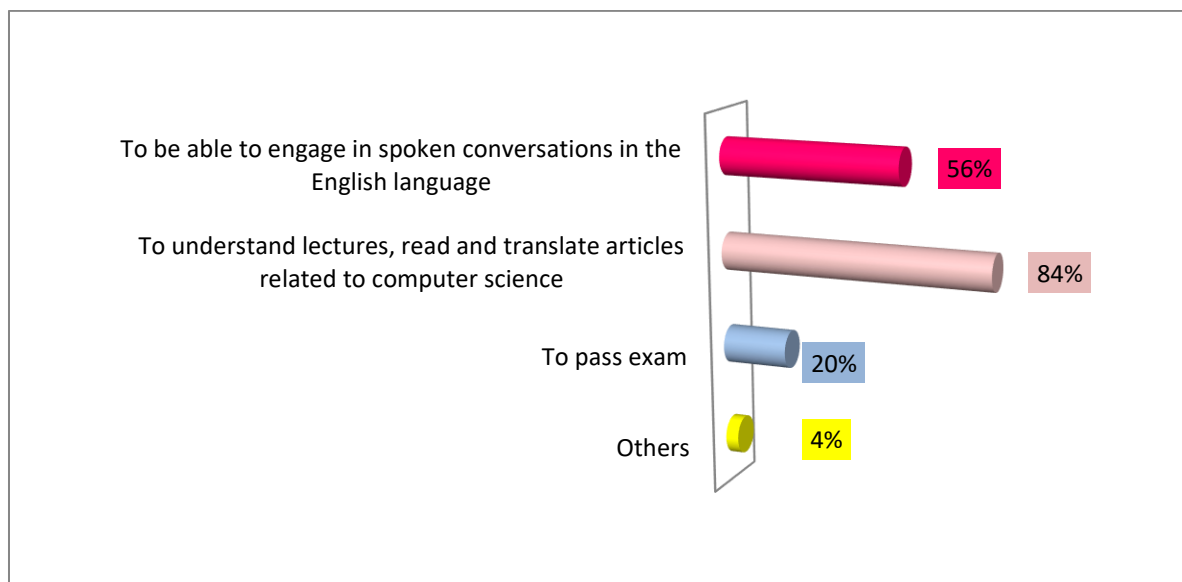
Sector 3.2: *Students' Consideration Language Proficiency Importance*



The statistics suggest that the majority of the respondents, accounting for 76%, consider English to be important, while a smaller proportion of 16% believe that French is important. Additionally, there is a relatively low percentage of 8% respondents who recognize the importance of both languages. This substantial majority reflects the importance of English proficiency for success and engagement in the field of Computer Science, as it likely serves as the primary language for technical documentation, programming languages, research publications, and communication in both academic and professional pursuits. Moreover, this high percentage align with the statement of Kennedy and Bolitho (1984) who state that “Much of the demand for ESP has come from scientists and technologists who need to learn English for a number of purposes connected with their specialisms” (p. 6).

Question (2): If it is English, why are you interested in studying English? (YOU MAY PICK MORE THAN ONE)

Graph 3.3: *Students' Reasons and Interest of Studying English*

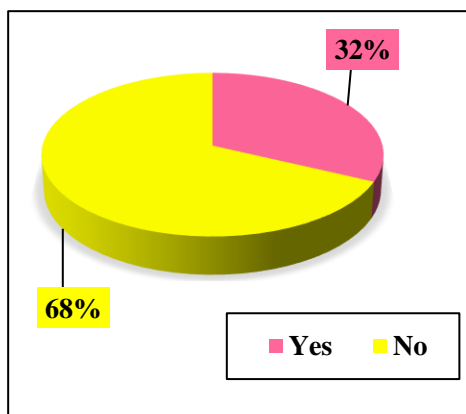


Based on the gathered data from this question about students' interests regarding their studying of English, the fact that 56% of participants selected “to be able to engage in oral conversations” highlights a notable emphasis on developing practical communication skills. Fiorito (2005, para. 15) supports this finding, stating that learners in ESP classes are generally aware of the purposes for which they will need to use English. The percentages for understanding lectures, reading and translating articles 84% show a strong interest in academic and research-related aspects, potentially for having access to a broader choice of learning resources and staying updated in their field of study. The 20% who selected “To pass exams” likely perceive the importance of English proficiency as a requirement for their academic success.

At last, a few respondents provided their own individual reasons for studying English. One of those respondents mentioned their interest in studying English for ‘freelance purposes’; while another expressed an intrigue in studying English for ‘tourism’.

Question (3): Do you already know that you are supposed to take ESP course related to your field and not General English?

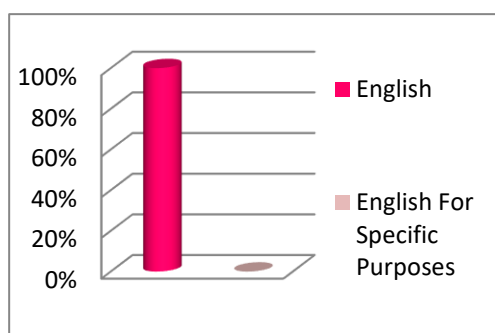
Sector 3.3: *Students' Awareness of the Need for an ESP Course rather than General English*



Responses show that only 32% of the participants are aware that they are supposed to take an ESP course related to their field of study, while a significant majority of (68%) are not aware of this requirement. This lack of awareness might be due to a lack of information or communication regarding the importance of studying English within their specific area.

Question (4): What term do you use to refer to your English course?

Graph 3.4: *Students' Reference to ESP Course*

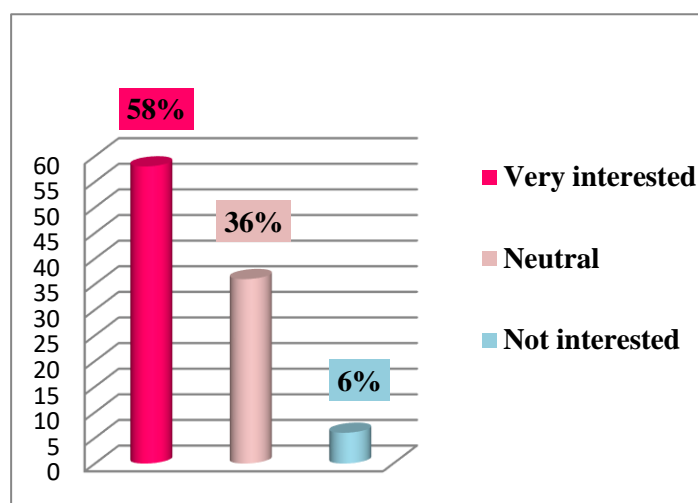


From the results obtained from the above question; 100% of the participants referred to their English course simply as “English” without specifying “English for Specific Purposes”, which aligns with the earlier finding of sector 3.3 that the majority of students (68%) were not aware of the requirement to take an ESP course related to their field of study.

This indicates a lack of awareness among students regarding the specialized nature of their English studies.

Question (5): Are you interested in taking an ESP course that is specifically designed for students of Computer Science, with an emphasis on technical vocabulary and communication relevant to your field?

Graph 3.5: *Students' Interest in Taking ESP Course*

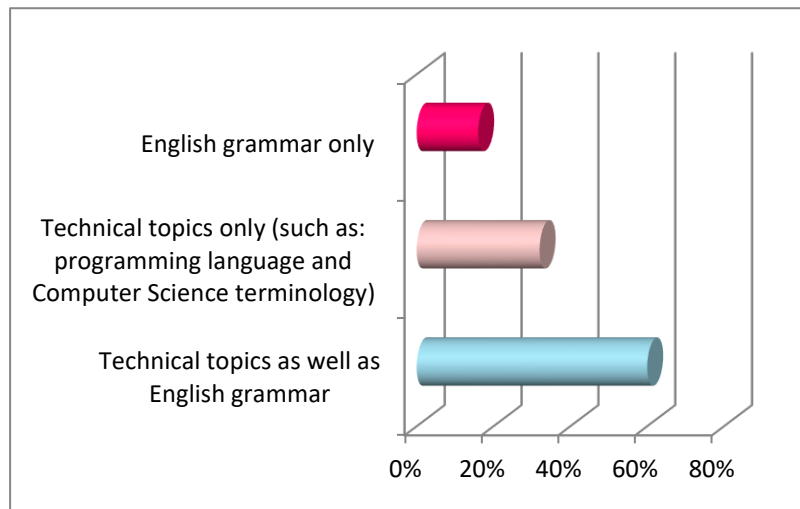


The statistics reveal that 58% of respondents are very interested in taking an ESP course specifically designed for Computer Science students, with a focus on technical vocabulary and communication relevant to their field. 36% of respondents indicated a neutral stance, neither strongly interested nor disinterested; while only 6% expressed a lack of interest. This suggests a significant level of interest among the respondents, with more than a half (58%) recognizing the value and relevance of improving their English skills within the context of Computer Science. The results indicate a positive inclination towards taking the specialized course, and highlight the importance of effective communication and technical language proficiency in the field of Computer Science. Overall, these statistics are consistent with the statement made by Kennedy and Bolitho (1984) that ESP has experienced significant

demand from scientists and technologists, who require English language proficiency for various purposes directly related to their specialized fields.

Question (6): Does the English language syllabus you are currently studying cover: (YOU MAY PICK MORE THAN ONE)

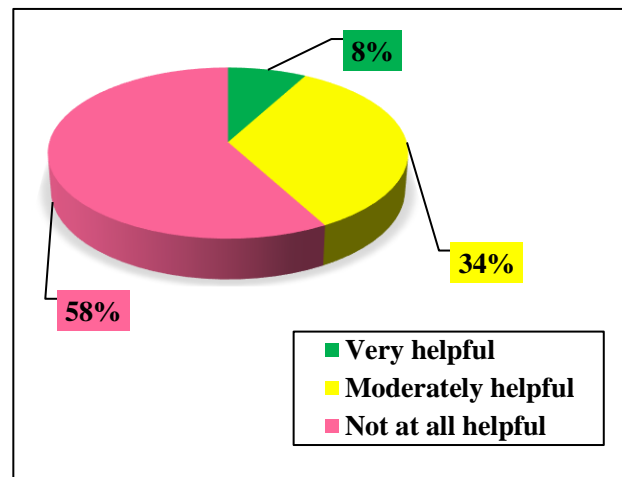
Graph 3.6: *English Language Syllabus Coverage*



This question aims to infer the extent of coverage in the English language syllabus for ESP students of Computer Science. Specifically, it seeks to understand whether the syllabus primarily focuses on general English grammar, technical topics, or provides a balance by covering both technical topics and English grammar. The majority of the ESP students (60%) reported that their current English language syllabus covers both technical topics, such as programming languages and Computer Science terminology, as well as general English grammar. This indicates that the syllabus recognizes the importance of effective communication within the context of programming languages, Computer Science terminology, and related concepts. By incorporating technical topics alongside English grammar, the syllabus aims to enhance students' ability to effectively communicate and comprehend domain-specific information, which is essential for their future careers in Computer Science.

Question (7): Do you feel that your English language classes have helped you develop good English related to Computer Science?

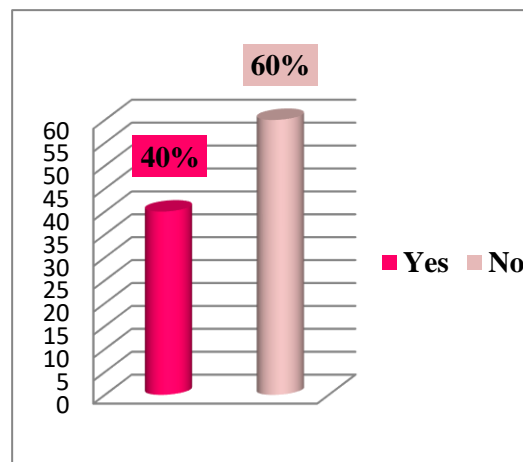
Sector 3.4: *Helpfulness of English Language Classes in Developing Computer Science Related English Proficiency*



Noticeably, there is an apparent variation in students' perception of the helpfulness of their English language classes in developing English skills related to computer science. The majority of participants (58%) expressed that the classes were not helpful at all in this regard. In contrast, 34% of students found the classes moderately helpful, while a smaller percentage (8%) considered them very helpful. These findings showcase that a significant portion of students perceive their English language classes as insufficient to address the language requirements of their field, correlating to a potential gap between students' expectations and the effectiveness of the English language program in meeting their specific language needs for Computer Science. The latter findings highlight the importance of tailoring the curriculum to better cater to the specific language needs of Computer Science students, and thereby enhancing the program's effectiveness in preparing them for their professional goals.

Question (8): Have you ever proposed certain activities to be added to the coursework?

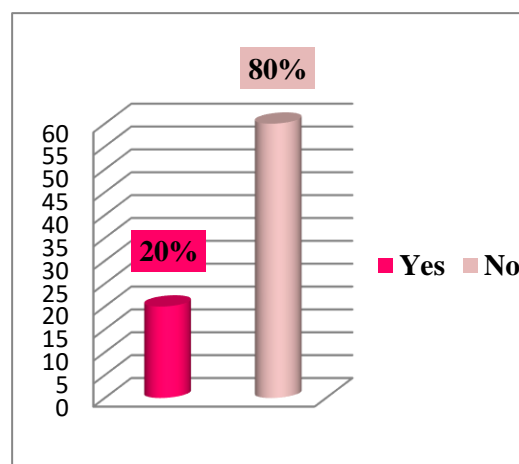
Graph 3.7: *Student Proposals for Coursework Improvement*



The participants were asked whether they have ever proposed certain activities to be added to the coursework. The results reveal that 40% of the participants proposed activities to be added, while the majority (60%) had not. This illustrates that an ample size of students took an active role in providing and suggesting ideas to improve their coursework, which implies that students have a clear understanding of their needs, as they are aware of areas that require improvement. Their engagement demonstrates that their desire to enhance their learning experience and contribute to shaping their academic program in order to express the needs that they feel are not met. While a majority may not have taken such initiative due to various factors, such as: hesitation in sharing suggestions, or the perception that their input may not be taken into consideration. It is evident that there may be a potential gap between the active participation of students in proposing activities for the coursework and the level of consideration given by their teacher as proven in the results of question 8 second part. This highlights the importance of exploring the reasons behind teacher not taking the proposed activities into consideration, as it could impact students' willingness to provide suggestions.

If yes, did your teacher take the proposed activities into consideration?

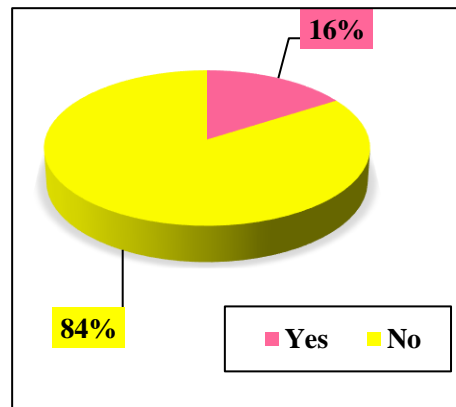
Graph 3.8: *Consideration of Proposed Activities by the Teacher*



Based on the responses, only (20%) of the students who proposed activities for the coursework reported that their teachers took those suggestions into consideration, while the majority, (80%), stated that their teacher did not consider the proposed activities. Further implications of the findings show that, it is possible to infer that the majority of students (60%) who did not propose activities may have been influenced by the fact that their peers' suggestions were not taken into consideration. If students observe that their classmates' ideas are not considered or implemented, they may be hesitant to suggest activities themselves. This suggests that there may be a lack of flexibility in incorporating students' suggestions into the coursework. It could indicate that the syllabus is not limited to EST or the teaching approach may be more teacher-centered, with a less focus on addressing students' needs or actively involving them in shaping the activities. Further exploration or communication between students and teacher may be beneficial to address this imbalance and enhance collaboration in syllabus development.

Question (9): Do you think one hour and a half session per week is sufficient for an English course?

Sector 3.5: *Students' Opinion on the Sufficiency of the Time of English Course*

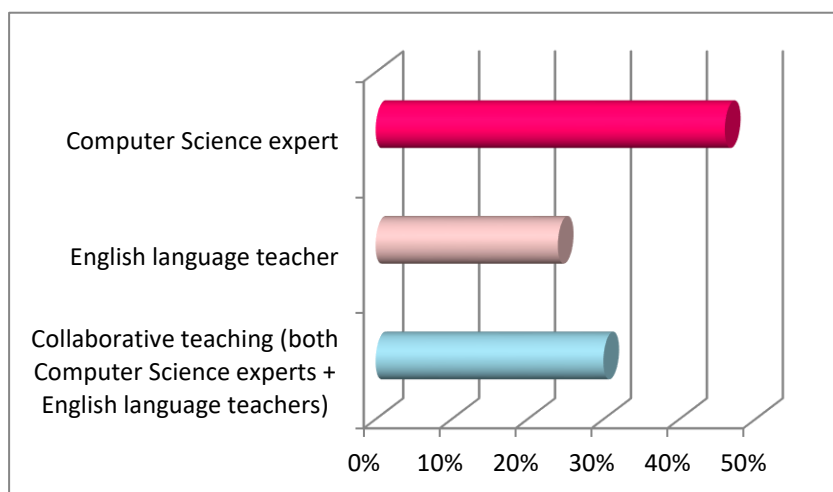


The data indicates that only a small number of students (16%) consider the one hour and a half session per week sufficient for learning English, while a significant majority of students (84%) are dissatisfied with the one hour and a half session per week for learning English. This finding is in accordance with Robinson's (1989, p. 398) observation that “ESP courses are normally constrained by a shortage of time”. These time limitations can hinder the effectiveness of language learning in ESP courses, which highlights the need to reconsider the allocation of time to ensure meeting language learning goals.

Section 3: EST Generalities

Question (1): Do you believe that English instruction is best provided by

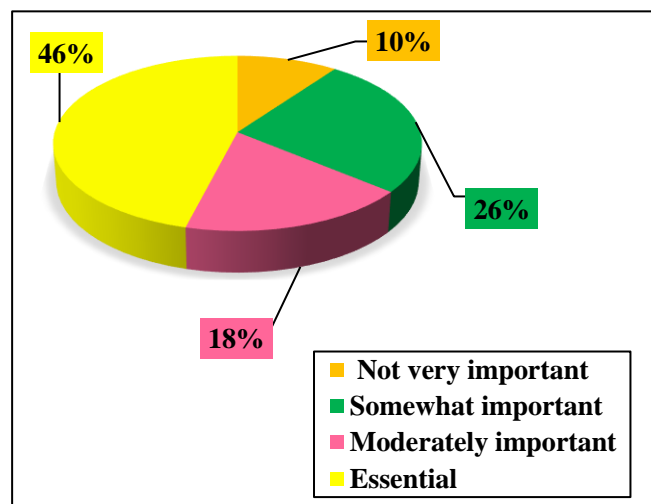
Graph 3.9: *Students' Perception about the Appropriate Teacher for ESP Module*



The statistics provided indicate that there is a belief among respondents that English instruction is best provided by Computer Science experts 46%, followed by collaborative teaching involving both Computer Science experts and English language teachers 30%, and English language teachers alone 24%. This suggests a recognition of the potential benefits of incorporating technology and computational thinking into language learning, as well as the value of combining expertise to enhance English instruction and they want to study EST not GE. However, it is important to acknowledge the continued importance of trained language instructors, who possess pedagogical knowledge, language proficiency, and specialized teaching techniques tailored for language learning. A balanced and integrative approach that combines technology, language expertise, and effective pedagogy could yield optimal outcomes in English instruction.

Question (2): How important do you think it is for you, as a student, to be able to interpret visual information, such as graphs and charts?

Sector 3.6: *Significance of Visual Information Interpretation for Students*

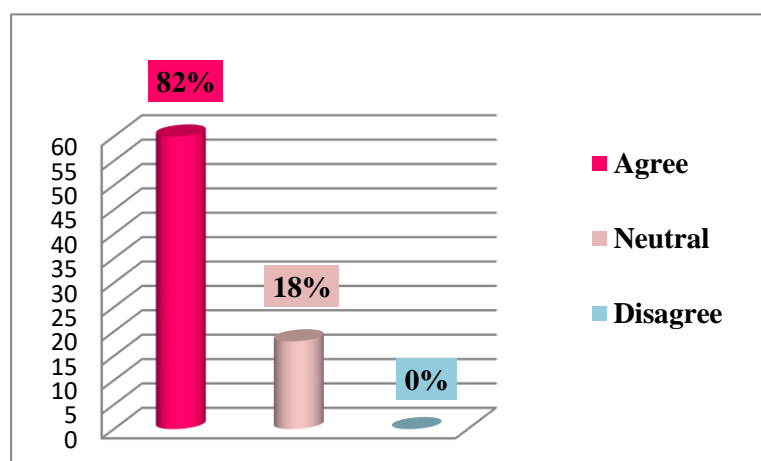


Based on the responses, the perceived importance of being able to interpret visual information varies among students. The highest percentage of (46%) considered it essential, indicating a strong recognition of the importance of interpreting graphs and charts.

Additionally, 18% considered it moderately important, while 26% found it somewhat important. A smaller percentage of (10%) stated that it is not very important. The high percentage of students (46%+26%+18%) highlights their recognition of its crucial role in academic and professional settings, and their identification that it is one of the distinctive features of EST not GE as it was elaborated in the theoretical part (see Chapter 2). Visual information, such as graphs and charts, often convey complex data efficiently, allowing for effective analysis and interpretation.

Question (3): Do you agree that understanding specialized vocabulary is crucial in English for Science and Technology (EST) courses?

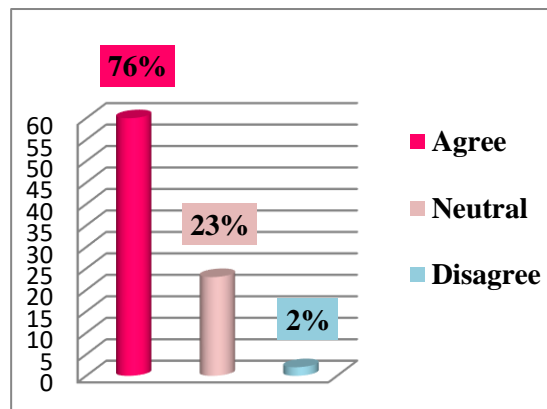
Graph 3.10: *Importance of Specialized Vocabulary in English for Science and Technology (EST) Courses*



Based on the responses, a large majority of (82%) agree that understanding specialized vocabulary is crucial in EST courses. This indicates recognition among students that having a strong grasp of specialized terminology and vocabulary is essential for effectively communicating and comprehending scientific and technological concepts. The 18% neutral response suggests a smaller portion of students may have varying perspectives or may not strongly agree with the statement. However, no respondents disagreed with the statement.

Question (4): Exposure to authentic materials, such as research papers and technical articles is beneficial for learning EST in computer science.

Graph 3.11: *Benefits of Exposure to Authentic Materials in Learning EST in Computer Science*

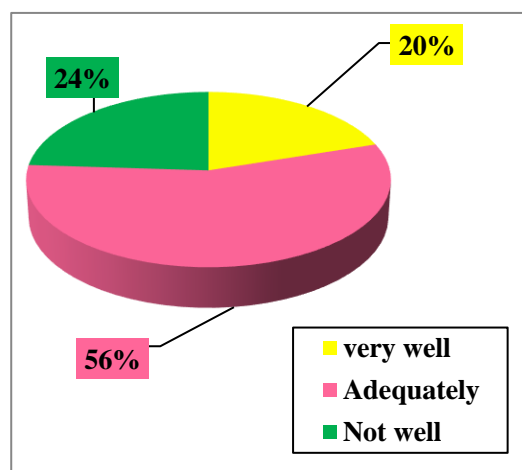


Those findings depict students' viewpoints on the beneficial nature of exposure to authentic materials, such as research papers and technical articles, for learning EST in the field of Computer Science. A notable portion (23%) remain neutral, this could indicate a lack of certainty among the respondents regarding the extent of the benefits gained from exposure to authentic materials. While only a small percentage of respondents (2%) disagreed with the statement. The majority of respondents (76%), however, agreed that exposure to authentic materials is beneficial for learning EST in computer science, which suggests that students believe that engaging with real-world materials enhances their understanding and proficiency in English for Science and Technology, which supports the incorporation of such materials into the curriculum and instructional practices to facilitate students' language learning and development in the field of Computer Science. This finding supports Carver's (1983) notion that authentic material is essential in an ESP course due to its alignment with specific purposes.

Section 4: EST in classroom

Question (1): How well do you understand technical English related to Computer Science?

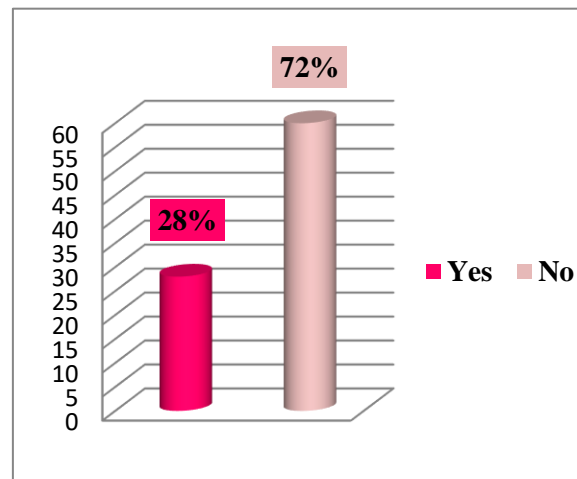
Sector 3.7: *Students' understanding of Technical English in Computer Science*



The results displayed in sector 3.7, show that more than half of the research sample (56%) declared that they adequately understand technical English related to Computer Science, while 20% of them assumed that they understand technical English very well, indicating a high level of proficiency in comprehending complex technical terms and specialized language used in Computer Science. However, a notable proportion of students (24%) reported not understanding technical English well. This clearly denotes the varying levels of understanding technical English among students, which could be attributed to differences in their language proficiency and prior exposure to English, as well as their individual learning styles and strategies. In this respect, it is important to consider the differing levels of understanding among students and address the needs of those who reported not understanding technical English well. Providing additional support on EST, such as: vocabulary enrichment activities, and opportunities for exposure to technical materials (articles, videos, simulations, etc) can help enhance their comprehension of technical English in the context of Computer Science.

Question (2): Do you feel confident enough to use English related to Computer Science in a professional setting?

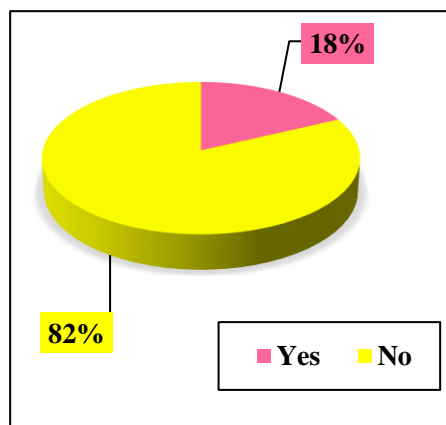
Graph 3.12: *Students' Level of Confidence in Using English Related to Computer Science in a Professional Setting*



The statistics obtained from the above question indicate that a smaller percentage of students (28%) expressed confidence in their English skills related to Computer Science in a professional context. While a significant majority of the students (72%) do not feel so. This suggests that a large portion of the students experience a lack of confidence or proficiency in using English effectively within a Computer Science professional setting due to various reasons, probably: the lack of exposure to real world communication scenarios within the specific context of Computer Science, along with the limited practice of English related to their field that is of technical nature with specialized vocabulary and terminology, which may shape a challenge to students to comprehend. These findings highlight the need for additional support and language development opportunities to enhance students' confidence and competence in using English in professional situations specifically within the field of Computer Science, and the findings are consistent with the results of question one, section 4 and are a reflection or consequence of the lack of Technical English Mastery.

Question (3): Did your teacher provide you with any texts related to your field that you had to translate?

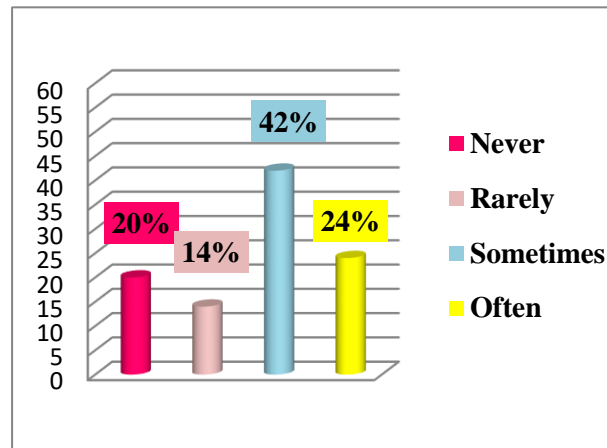
Sector 3.8: *Provision of Texts for Translation by the Teacher*



Sector 3.8 shows that a significant majority of students (82%) reported that their teacher did not provide them with texts related to their field that required translation. This suggests that the majority of students did not have the experience of translating texts in their specific field as part of their coursework, and just a smaller percentage of students (18%) indicated that their teacher did provide them with such texts, which implies the practice of translating texts related to their field is not widely incorporated into the students' coursework. In total, according to the results displayed in the table, it is evident to claim that the curriculum may prioritize the development of other language skills, leaving less room for translation tasks. It is also possible that time constraints within the coursework may limit the incorporation of translation activities, because other areas of study and practical application may take priority.

Question (4): Does your English language teacher provide practical exercises or activities that help you practice technical language in the field of Computer Science and related disciplines?

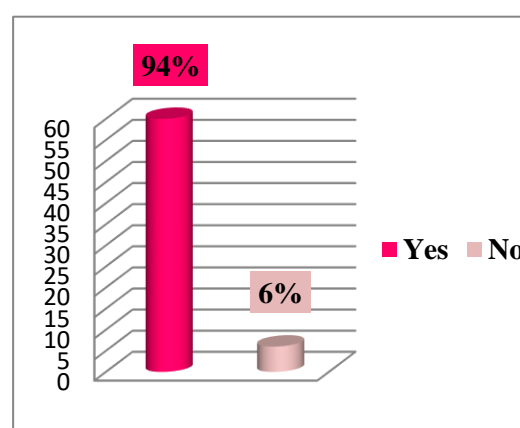
Graph 3.13: *Provision of Practical Exercises for Technical Language in Computer Science*



The collected data displayed in Graph 3.12 mirror the teacher's provision of practical exercises or activities to practice technical language in the field of Computer Science and related disciplines. As it is shown, a significant portion of students (42%) + (24%) reported that their teacher provides practical exercises or activities to practice technical language in the field of Computer Science and related disciplines. However, a smaller proportion of students (34%) indicated that their teacher either never (20%) or rarely (14%) offers such exercises. This shows that even if more frequent practice exercises should be provided, the teacher does include opportunities for students to practice their language skills. The overall feedback indicates that the teacher adequately incorporates practical exercises or activities to practice technical language in Computer Science, which demonstrates providing students with more opportunities to practice language skills within the context of Computer Science.

Question (5): Are you able to recognize and use common abbreviations related to Computer Science in English, such as GUI, SQL, or HTTP?

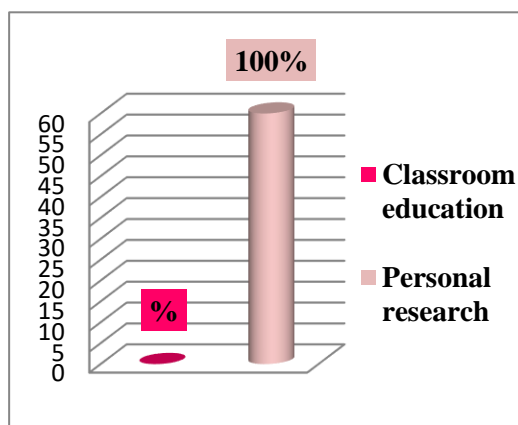
Graph 3.14: *Recognition and Usage of Common Abbreviations in Computer Science*



Based on the given responses, out of the total number of respondents, approximately 94% indicated that they are able to recognize and use common abbreviations related to Computer Science in English. While approximately 6% responded that they are not able to recognize and use these common abbreviations. The data indicates a positive outcome, demonstrating that the overwhelming majority of the participants have acquired the necessary knowledge and familiarity with common Computer Science abbreviations.

If yes, from which source you learn it: (YOU MAY PICK MORE THAN ONE)

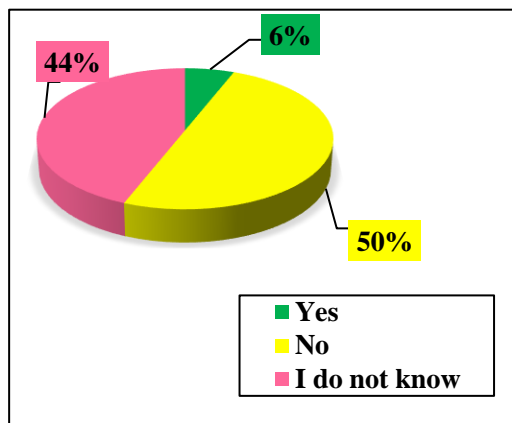
Graph 3.15: *Source of Learning for Recognizing and Using them*



The data suggests that all the students (100% of the 94% of question 5, section 4) who indicated that they are able to recognize and use common abbreviations related to Computer Science in English have acquired this knowledge through personal research, which may include other modules or sources. Meanwhile, none of the respondents attributed their learning of these abbreviations to classroom education, specifically English courses. This is perhaps due to the possibility that the English course for Computer Science may not have emphasized or included extensive coverage of Computer Science-related abbreviations, which is not consistent with EST features.

Question (6): Does your teacher use textbooks about EST as a material to teach?

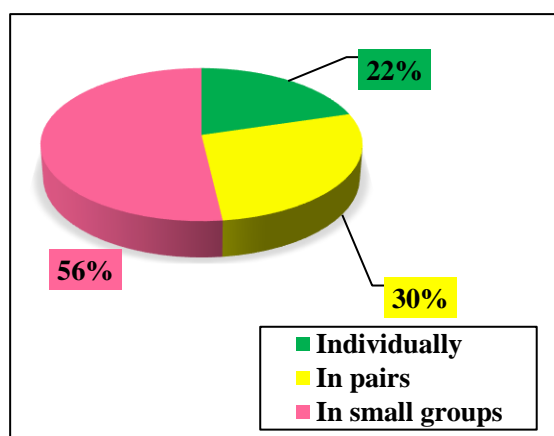
Sector 3.9: *Use of EST Textbooks as Teaching Material by Your Teacher*



Based on the information provided, it appears that the majority of the respondents, approximately (50%), indicated that their teacher does not use textbooks about EST as a material to teach. A smaller percentage, approximately (6%) of the respondents, stated that the teacher does use textbooks about EST for teaching purposes. While 22 respondents approximately 44%, expressed uncertainty or lack of knowledge about whether their teacher uses EST textbooks. The findings imply that the teacher does not commonly rely on textbooks specifically designed for EST as a primary teaching resource, which does not work hand in hand with ESP in general and EST in particular.

Question (7): In English class, would you prefer to learn: (YOU MAY PICK MORE THAN ONE)

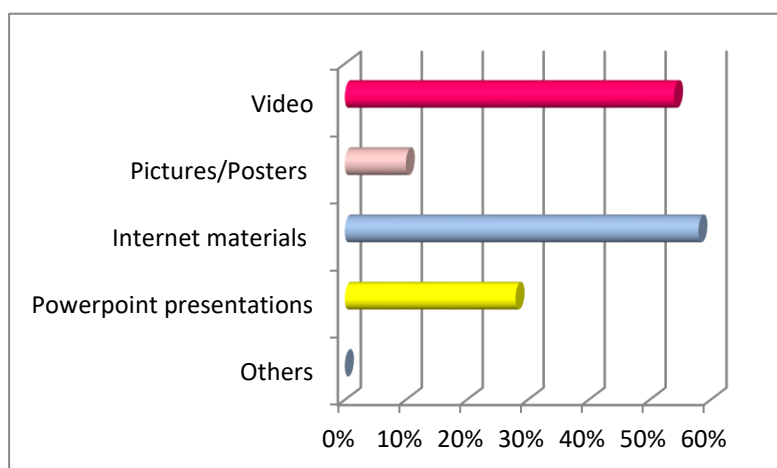
Sector 3.10: *Students' Preference Learning*



The statistics provided indicate that a diverse range of preferences exists regarding learning preferences in a classroom. Approximately 22% of these students prefer individual learning to focus on independent language skill development. This can be facilitated by assigning tasks, such as: reading technical articles, writing code documentation, or practicing technical writing. In addition, speaking and listening activities can further support their language development. This can include participating in discussions or debates related to their field, engaging in language exchange partnerships to practice conversation skills, listening to podcasts or TED Talks on technology topics, and delivering presentations to articulate their thoughts and ideas. Around 30% of Computer Science students value collaborative work for instance pair programming, which can be adapted to English classes through activities like, analyzing and discussing technical texts or engaging in peer editing to improve language skills. Moreover, the majority of approximately (56%) of Computer Science students find small group learning beneficial for teamwork and collaborative projects. By incorporating a balanced mix of individual work, pair programming, and small group activities, English teachers can create a comprehensive learning environment that caters to the unique preferences and needs of these students, fostering both technical proficiency and effective teamwork abilities.

Question (8): Which audio-visual materials do you prefer to use for learning: (YOU MAY PICK MORE THAN ONE)

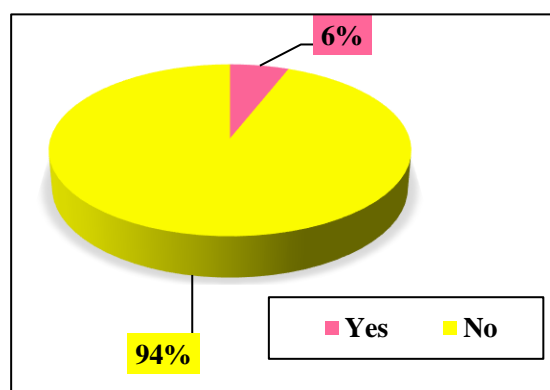
Graph 3. 16: *Students' Preferred Audio-Visual Materials for Learning*



The results displayed in graph 3.15, show that a small percentage (28%) of the respondents, mentioned the use of powerpoint presentations as an audio-visual tool, along with pictures/posters that were preferred by 10% of the respondents. However, 58% of the respondents, which shape half of the majority, expressed a preference for using the internet materials as an audio-visual learning resource. This suggests that online platforms, websites, and multimedia content available on the internet are favored for their accessibility, variety, and interactive nature. Video/DVD materials were also popular, with 54% of the respondents indicating their preference for this format. Videos and DVDs likely provide visual and auditory stimuli, allowing for a dynamic and engaging learning experience.

Question (9): Are audio-visual aids used in your lessons?

Sector 3.11: *Use of Audio-visual Aids in Lessons*



As it is demonstrated in sector 3.11, the majority of the respondents (94%) perceive that the teacher does not utilize audio-visual aids in her lessons. Only a small percentage (6%) of the respondents reported the use of audio-visual aids by the teacher, potentially prioritizing other teaching methods or resources, or due to technical constraints.

- If yes, please indicate which ones and how they are used:

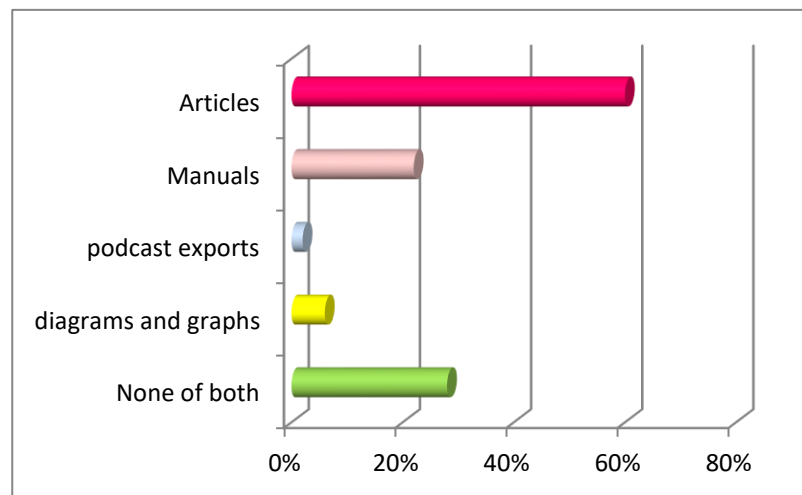
Among those respondents who confirmed the use of audio-visual aids, they all indicated Moodle as the specific platform utilized by the teacher. This may suggest a limitation in the variety of audio-visual resources available. Exclusively relying on Moodle could be due to constraints such as limited access to other audio-visual materials or a lack of

familiarity with other platforms. This limitation might result in a less variety of audio-visual experiences for the students, which may eventually result in hindering their exposure to different types of multimedia resources about EST.

Question (10): Which type of materials is commonly used within your English coursework?

(You may choose more than one option).

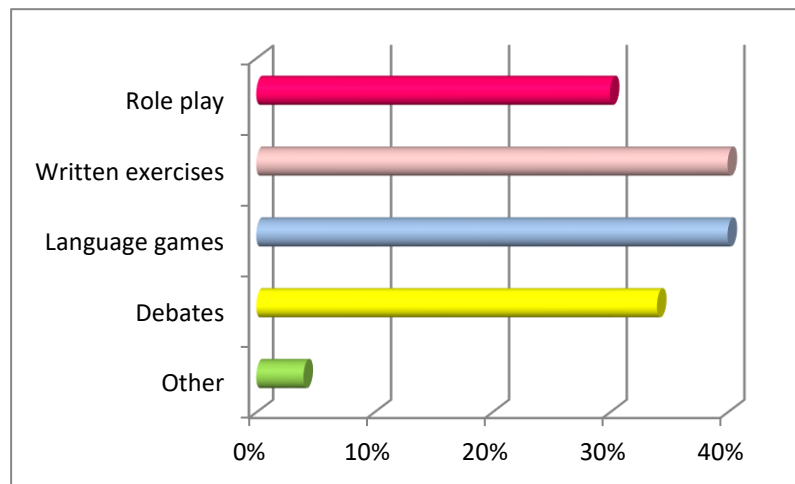
Graph 3.17: *Commonly Used Materials in English Coursework*



The data gathered shows types of materials commonly used within the English coursework. The majority (60%) of the respondents reported using articles as a common material in their English coursework, which showcases that articles are likely utilized to enhance reading comprehension, expose students to various writing styles, and provide authentic language examples. 22% of students chose the use of manuals in their English coursework. While just 6% of the respondents reported using diagrams and graphs, and 2% of the respondents mentioned the use of audio-visual aids in the form of podcast excerpts. However, it is worth noting that 28% of the respondents stated that none of these materials are commonly used in their English coursework. This could indicate variations in teaching approaches or tasks and materials implemented by the same teacher for different groups of students.

Question (11): Which one of the following activities do you find useful to enhance your English language? (YOU MAY PICK MORE THAN ONE)

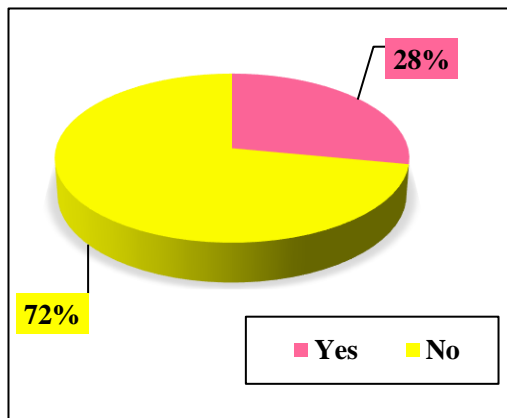
Graph 3.18: *Useful Activities for Enhancing English Language*



The results displayed in graph 3.18, reveals that the language games 48% and written exercises 40% are the most chosen activities by students that they find beneficial for enhancing their English language skills, followed by debates 34% then role play 30%. The results retreated from the above question denote that Computer Science students opt to use language games to enhance their English language skills, because of their interactive and engaging nature, as well as providing a fun way to practice skills while incorporating elements of technology or logic that resonate with their field of study. Finally, a small number of respondents (4%) expressed their personal preferences for enhancing their English language skills: one participant mentioned that they find watching movies helpful; while another respondent mentioned their preference for podcasts as a means of language improvement.

Question (12): Does your teacher incorporate exercises that focus on pronunciation when teaching technical terms?

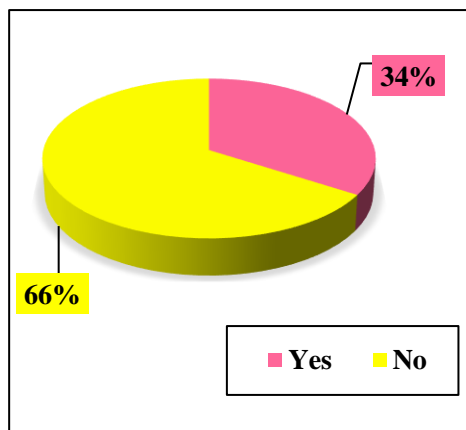
Sector 3.12: *Inclusion of Pronunciation Focused Exercises in Teaching Technical Terms*



The data obtained from the question (12) reveals that the majority of the students (72%) reported that their teacher does not incorporate such exercises, meanwhile, a smaller percentage of students (28%) indicated that their teacher does incorporate them. This suggests that pronunciation exercises specifically targeting technical terms are not widely integrated into the instructional practices of the teacher. Consequently, a significant proportion of students may not receive explicit guidance and practice in pronouncing technical terms accurately within the field of Computer Science. Therefore, the need for increased emphasis on pronunciation exercises for technical terms in the language instruction provided to computer science students is highlighted through the findings of this question.

Question (13): Does your teacher offer you cultural materials that are relevant to your field?

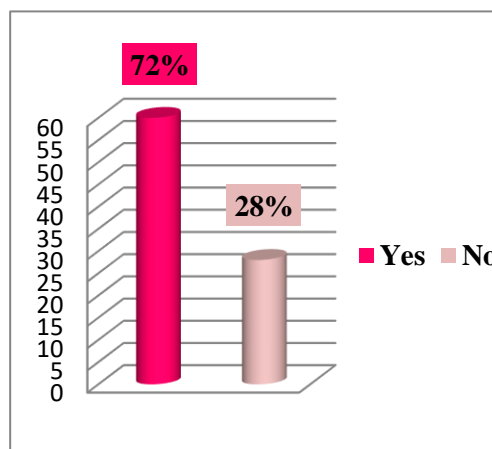
Sector 3.13: *Provision of Relevant Cultural Materials by Your Teacher*



This data suggests that a minority of the students (34%) perceive that their teacher provides cultural materials that are relevant to their field of study. However, the majority of the respondents (66%) stated that their teacher does not offer such materials. It is possible that the teacher's focus is primarily on technical or theoretical aspects of the field, rather than incorporating cultural elements. Limited access to suitable cultural materials or a lack of emphasis on cultural integration within the curriculum may also contribute to the lower percentage of students receiving relevant cultural resources. As a result, students may miss out on opportunities to deepen their understanding of the cultural context related to their field, and may face problems such as the one exhibited in the results of question 14, section 4.

Question (14): Have you ever encountered cultural difficulties when translating technical documents or articles from English to another language, or vice versa?

Graph 3.19: *Documents Encountering Cultural Difficulties in Translating Technical*



Graph 3.19 demonstrates encountering cultural difficulties in translating technical documents or articles by students. On one hand, the majority of the students (72%) encounter cultural difficulties during translation processes, which may arise from differences in cultural references, idiomatic expressions, or context specific knowledge that require careful consideration during the translation process. On the other hand, 28% reported that they did not encounter cultural difficulties during translation. This implies that some students may

have had relatively smoother experiences when translating technical materials, possibly due to their familiarity with the cultural aspects of both languages or their proficiency in cross-cultural communication, whereas the majority suffer from this because the results of question 13, section 4.

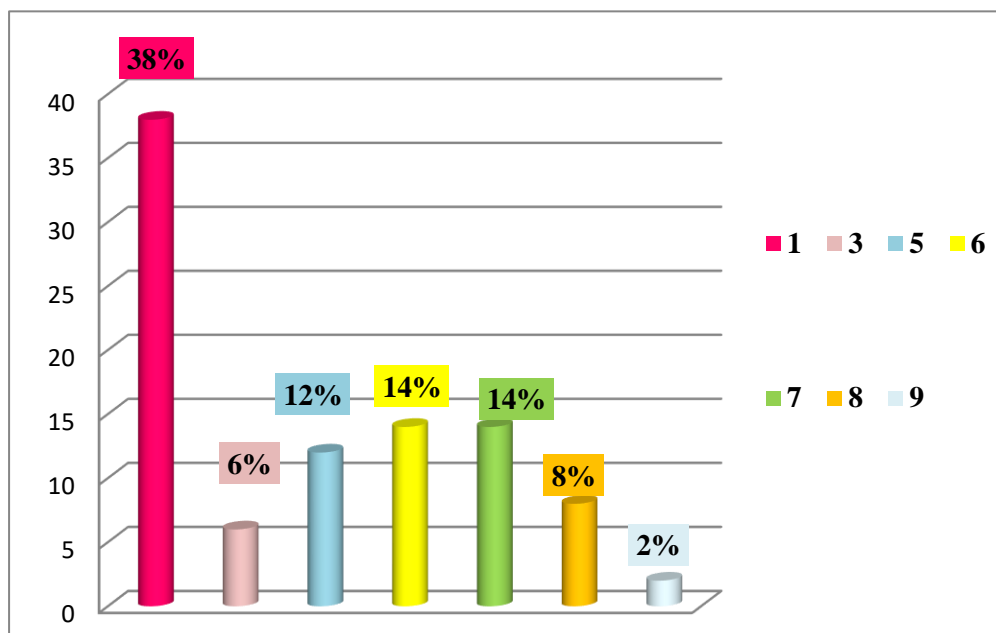
Question (15): On one scale of 1 to 10, (where 1 is very dissatisfied and 10 is very satisfied), how would you rate the quality of the English course you are taking?

Very satisfied

Dissatisfied

10 9 8 7 6 5 4 3 2 1 0

Graph 3.20: *Students' Satisfaction Rating of an English Course*



Based on the statistics provided, it appears that the majority of respondents (38%) rated the quality of the English course as 1, indicating they are very dissatisfied. This reveals a considerable level of dissatisfaction with the English course, with only a small portion of respondents expressing satisfaction. It would be valuable to investigate the reasons behind the low ratings and address any issues to improve the course quality and meet the expectations of

the students. This result is in harmony with the findings of Section 2 (question 7, 8, and 9) Section 3 (question 1) Section 4 (question 1, 2, 3, 4, 8, 9, 12, and 13).

If you have any further comments or suggestions, please mention them.

Most of students suggest that “we generally provide the teacher with more clarification about some ideas related to our field of Computer Science”, which indicates that their teacher lack sufficient experience or expertise in their field.

3.7.1. Summary of Results and Findings from Students’ Questionnaire

Grounded on the precedent findings gathered from the students’ questionnaire, the first section highlighted the general background of the surveyed Computer Science students. They were primarily around 20 years old, indicating maturity and self-awareness. The majority had studied English for nine years, establishing a strong foundation. Additionally, a considerable number reported high English proficiency, while others had an intermediate level. These findings suggest that the students have the language skills required to effectively engage in ESP within their field of study.

The findings from the second section of the questionnaire indicate that the Computer Science students place a high importance on English proficiency, recognizing it as essential for success in their field. They show a strong interest in developing practical communication skills, understanding academic materials, and keeping up with the latest research. However, there appears to be a lack of awareness regarding the requirement for an ESP course related to their field of study. Despite this, a majority of students express a notable interest in taking a specialized ESP course tailored to Computer Science, emphasizing the importance of technical vocabulary and communication within their discipline. The results also highlight the need for a more targeted and effective English language program that addresses the specific language needs of Computer Science students. Collaboration between students and teachers,

consideration of students' proposals, and a reevaluation of learning time allocation are recommended to enhance the overall language learning experience for these students.

Nevertheless, Section Three of the questionnaire explores various aspects related to EST in the field of Computer Science. The findings highlight the belief among respondents that English instruction is best provided by Computer Science experts, either alone or in collaboration with English language teachers. This indicates an acknowledgment of the potential benefits of incorporating technology and computational thinking into language learning. Additionally, there is recognition of the importance of interpreting visual information, such as graphs and charts, for academic and professional purposes. The majority of students also agree on the significance of understanding specialized vocabulary in EST courses. Furthermore, most respondents believe that exposure to authentic materials, such as research papers and technical articles, is beneficial for learning EST in Computer Science. These findings emphasize the importance of a balanced approach, incorporating expertise from both language and Computer Science fields, as well as the integration of authentic materials to enhance English instruction in the context of Computer Science.

The fourth section of the study highlights the use of EST in the classroom. The findings indicate that while a majority of students reported adequate understanding of technical English related to Computer Science, a significant proportion expressed difficulties in comprehending it. These varying levels of understanding can be attributed to differences in language proficiency, prior exposure to English, and individual learning styles. To address the needs of students who struggle with technical English, it is crucial to provide additional support, such as vocabulary enrichment activities and exposure to technical materials. Furthermore, the study reveals that the majority of students lack confidence in using English in a professional context within Computer Science. This highlights the importance of incorporating language development opportunities to enhance students' competence and

confidence in using English effectively in their field. Additionally, the study suggests that the provision of translation tasks and textbooks specifically focused on EST is limited, indicating the need for curriculum adjustments and more emphasis on these aspects. By considering the preferences for learning settings, audio-visual resources, and materials, educators can create a comprehensive learning environment that caters to the unique needs of Computer Science students. Finally, the study emphasizes the importance of pronunciation exercises for technical terms and the incorporation of cultural elements relevant to the field. Overall, these findings provide insights into the challenges and opportunities in incorporating EST into Computer Science education, highlighting areas where improvements can be made to enhance students' language skills and overall learning experience.

3.8. Analysis and Interpretation of Teacher's Interview

It includes four sections

Section 1: Information about General Background.

In this section, the teacher was asked about her academic qualifications and teaching experience. The teacher holds a Master's degree and has been teaching English for 12 years. She has prior experience teaching English in other departments. However, her experience in the department of Computer Science is relatively short, for only 1 year. This suggests that she might be relatively new to teaching English in this specific context and may still be adapting her teaching methods to suit the needs of Computer Science students. Additionally, this can be considered as a potential drawback, since teaching in a specific department requires a certain level of familiarity with the subject matter, and an understanding of the unique challenges and requirements of the students in that field.

Section 2: ESP Needs Analysis

In this section, the teacher responds to various questions related to ESP training and syllabus design. When asked if she has received any training or professional development in

ESP, the teacher declined, this highlights the occurrence of ESP teachers who typically start their careers as General English teachers but are later tasked with instructing in specific domains that they may be partially acquainted with or completely unfamiliar with. This notion is further emphasized by Hutchinson and Water (1987, p. 160) who assert that “Many teachers who have been trained for General English or for the teaching of Literature may suddenly find themselves having to teach with texts whose content they know little or nothing about”. However, she acknowledges the importance of teacher training, emphasizing, "I think it's important to know more about the field that you are going to teach". Regarding students' motivation, the teacher confirms that her students seem motivated in English classes, which suggests a positive learning environment. One of the challenges faced in teaching English to Computer Science students, according to the teacher, is that “Students have different degrees of English proficiency”. However, the students express their perspectives in the questionnaire by stating, “we generally provide her with more clarification about some ideas related to our field of Computer Science” (see section 4, p. 96, last paragraph). From a negative perspective, it becomes evident that the teacher lacked substantial knowledge about the field of Computer Science. The students acknowledged this deficiency, suggesting that the teacher faced challenges in providing comprehensive and accurate information related to the subject. This implies that the teacher might struggle to fully understand and address the specific needs and requirements of Computer Science students. The students' statement highlights a potential limitation in the teacher's expertise, the importance of instructors possessing a solid foundation about the subjects they teach to effectively guide and educate their students.

The teacher considers the allocated time for the English module to be appropriate, but the students' feedback indicates that they find it inappropriate. She also affirms having the freedom to modify the Computer Science syllabus. When outlining the syllabus content, she

mentions, "It includes speech parts, Grammar points, scientific terms, etc.", which is consistent with the results of question 6, section 2 about their course content. The teacher admits to working independently in designing the course syllabus when asked if she works with other English instructors to design the course. Koran (2014) proclaim that "It has been proved by many ESP researchers that collaboration between the language teacher and the specialist or subject teacher is one of the most important parts of ESP course design" (p. 601), which is not the case for the interviewed teacher and which may have negative impact on fulfilling students' needs about EST. Moreover, she admits that she takes students' needs into consideration "to some extent" in course and syllabus design, and she believes that the current syllabus effectively meets students' goals and expectations, while the students express their dissatisfaction with it in the results of question 15. In the last question, the teacher was required to answer how to improve the students' English in the subject area, and she suggests, "Delivering presentations and listening to presentations and lectures".

Section 3: EST Generalities

The purpose of this section is to assess the teacher's knowledge about EST. The first question asked the teacher to disclose information about her belief regarding the best providers of English instruction, and she responded by stating that English instruction is best provided by language teachers, this may overlook the value of content-based instruction or subject-specific language instruction. While language teachers specialize in teaching language skills and grammar, they may not possess deep knowledge or expertise in specific fields like Computer Science. On another point, the second question asked was whether the teacher had received any specific training on teaching EST or not. The teacher declined, indicating a lack of the previously mentioned aspect; which unfortunately displays a huge lack of interest from the part of the administration to employ well-trained teachers as well as it foreshadows that the repercussions for students to study EST will be varied. In response to the third question

about the key differences between EST and teaching GE, the teacher provided a partial answer, identifying two important differences: the technical and specialized vocabulary in EST compared to GE, and EST students may have a stronger motivation to learn EST due to their interest in their fields compared to GE. However, the teacher neglected to mention the other options presented in the question, such as: the higher level of subject-specific knowledge required in teaching EST, the unique grammar structures in EST, the use of specialized visuals and multimedia, the collaborative group work and focus on exploration and questioning in EST, and the exposure to a wider range of technical and scientific writing genres, which denotes that she surely lacks training as proved by her answer to question 1, section 2. These neglected options are also significant in understanding the distinctions between teaching EST and GE. It is important for the teacher to consider and address these additional differences in order to provide a comprehensive understanding of the nuances and challenges involved in teaching EST.

The subsequent questions in the section focused on specific aspects of teaching EST. The teacher acknowledged the importance of cultural considerations and highlighted the crucial role of pronunciation in understanding and communicating scientific and technical information in English. She also recognized the effectiveness of technology and online resources in supporting EST learning. When discussing integrated skills activities, the teacher emphatically declared that “such activities provide students with more individualized instruction”. In contrast to the option that was chosen by the teacher; the most fitting response that corresponds with the concept of integrated skills activities is “by combining two or more language skills in a single activity”. Lastly, the teacher expressed a belief in “the high effectiveness” of authentic materials for improving students' technical English, particularly in the context of Computer Science studies.

In the next section, whether the teacher effectively applied the features and aspects of EST discussed earlier or not, was assessed. This evaluation involves examining her teaching methods, approaches, and classroom practices to determine the extent to which she incorporated specialized vocabulary, specific grammar, cultural considerations, pronunciation, technology integration, and the use of authentic materials in their instruction.

Section 4: EST in Classroom

This section focuses on assessing the teacher's implementation of EST in the classroom. The interviewee provided insights into her approach to teaching EST to Computer Science students. Regarding the language used during lessons, she confirmed using English, citing the use of English documents. When asked about the incorporation of technical language in the Computer Science syllabus, the teacher stated that she does so to a high extent, showcasing her understanding of the significance of specialized vocabulary for the students' success in their field.

Moreover, the teacher's disapproval about the inclusion of translation activities in their courses suggests a potential missed opportunity. Including translation activities can help students practice their language and technical skills by bridging the gap between their native language and English. Furthermore, when asked about the inclusion of culture in her courses, the teacher disconfirmed, stating that she does not incorporate culture. This is in contrast to Valdes' assertion (1986) that "it is virtually impossible to teach a language without teaching cultural content" (p. 121), and in contrast with what she replied in Section 3 question 4 (page 102, first paragraph). The omission of cultural considerations in the instruction may limit students' ability to understand language in authentic contexts and develop intercultural competence. Additionally, when asked about the types of teaching materials used in her classroom, the teacher mentioned utilizing technical documents, journal articles, and web articles. However, it is important to note that the questionnaire revealed a preference among

students for podcasts and watching videos as learning resources. There is a mismatch between the materials used and students' preferences, which may affect their engagement and motivation. The teacher should consider incorporating a variety of resources to accommodate different learning styles and preferences, which can enhance student engagement and learning outcomes.

The next question aimed to determine the primary language skill emphasized by the teacher in her English instruction. In response, the teacher highlighted the significance of the reading skill, where she actively engages students in various activities, including reading technical articles on Computer Science and utilizing course handouts. Additionally, she incorporates specific tasks to develop the other language skills. Writing activities focus on note-taking, while speaking activities revolve around delivering oral presentations and encouraging class participation. Listening activities encompass following oral questions and answers, attentively listening to presentations, and carefully following the teacher's instructions during her talks.

In the following question, the teacher places emphasis on key aspects of English language learning, including teaching specialized technical vocabulary relevant to the students' field of study, covering basic grammar rules, and fostering strong writing and composition skills. Her response about EST features suggests that she primarily focuses on incorporating one lexical feature, specifically by using special technical vocabulary in her lessons. While she does not explicitly mention utilizing other features such as graphological and syntactic features; this limited focus, could potentially result in neglecting students' language needs and hinder their overall language development and understanding. This implies that the teacher primarily focuses on teaching GE with just mixed technical vocabulary.

In terms of pronunciation, the teacher's response suggested that pronunciation exercises for technical terms were not incorporated into her teaching. Derwing and Munro (2015) indicate that pronunciation is often neglected in language classrooms due to various reasons, including limited training and concerns about time and insufficient guarantee of lasting results. In addition, she encountered difficulties with media resources, specifically with the datashow due to the lack of its availability at the department of Computer Science. The teacher at the end asserted that “teaching ESP at any departments needs skills and experience with an expert background and techniques”.

3.8.1. Summary of Results and Findings from Teacher's Interview

The interview with the teacher revealed several important findings. In terms of the general background, the teacher holds a Master's degree and has 12 years of teaching experience in English. However, her experience in teaching English in the department of Computer Science is relatively short, suggesting a potential lack of familiarity with the subject matter and the unique needs of Computer Science students.

Moving on to the ESP needs analysis, it was found that the teacher has not received specific training in ESP, which is a common occurrence among teachers who transition from teaching GE to teaching in specific domains. The students themselves acknowledged the teacher's limited knowledge of Computer Science, which poses challenges in providing accurate information and meeting the specific needs of the students. Additionally, the teacher works independently in designing the course syllabus and does not collaborate with other English instructors. This lack of collaboration and input from other experts in the field may hinder the development of a comprehensive and well-aligned syllabus. Furthermore, the students expressed their dissatisfaction with the current syllabus, suggesting a mismatch between their expectations and the content provided.

In terms of EST generalities, the teacher believes that English instruction is best provided by language teachers. However, she did not receive specific training in teaching EST, which may affect her ability to effectively teach in this specialized area. The teacher partially identified some key differences between teaching EST and General English, such as the presence of technical and specialized vocabulary in EST and the stronger motivation of EST students due to their interest in their fields. However, she neglected to mention other important differences.

Moving to the implementation of EST in the classroom, it was found that the teacher uses English during lessons and incorporates technical language to a high extent, which shows an understanding of the significance of specialized vocabulary for the students' success in their field. However, there were missed opportunities in incorporating translation activities, which can help students bridge the gap between their native language and English. Additionally, the teacher does not incorporate culture into her courses, which goes against the notion that teaching language and culture are inseparable. The omission of cultural considerations may limit students' ability to understand language in authentic contexts and develop intercultural competence.

Furthermore, while the teacher uses technical documents, journal articles, and web articles as teaching materials, the students expressed a preference for podcasts and videos as learning resources. This indicates a potential mismatch between the materials used by the teacher and the preferred learning resources of the students. The teacher places emphasis on the reading skill and incorporates tasks for other language skills, but pronunciation exercises for technical terms are not incorporated, which may neglect an important aspect of language learning.

Overall, the findings from the teacher's interview suggest areas for improvement in terms of expertise, collaboration, syllabus design, and instructional practices to effectively

teach ESP and EST in the context of Computer Science. These areas include seeking specific training in ESP and EST, collaborating with other instructors to design the syllabus, incorporating cultural content, using a variety of teaching materials that align with students' preferences, addressing all key differences between teaching EST and General English, and giving attention to pronunciation and a wider range of EST features in instruction.

3.9. Recommendations

In light of the findings and insights gained from this study, several recommendations can be put forward to enhance ESP courses for Computer Science students. These recommendations aim to address the specific language needs and challenges faced by students in this field, ultimately improving their language proficiency and satisfaction with the ESP courses. By implementing these recommendations, educators can create a more tailored and effective learning experience for Computer Science students, enabling them to communicate confidently and effectively in their professional contexts. The following suggestions focus on teacher training, instructional time allocation, and some activities, all of which play vital roles in optimizing EST courses for Computer Science students.

❖ Teacher Training

Teacher training is a critical recommendation to improve ESP courses in the field of Computer Science. ESP teachers play a pivotal role in facilitating effective language instruction that aligns with the specific needs of Computer Science students. Providing specialized training and professional development opportunities will enable these teachers to acquire the necessary skills and knowledge to deliver high-quality instruction. Strevens (1980, as cited in Robinson, 1991, p. 96) suggests: "Becoming an effective teacher of ESP requires more additional training, extra effort, and a fresh commitment, compared with being a teacher of general English."

Firstly, ESP teachers should receive training in the principles and methodologies of teaching ESP. This can involve workshops and courses that focus on instructional strategies, curriculum design, needs analysis, and assessment techniques specific to ESP in the field of Computer Science. By gaining a deeper understanding of ESP pedagogy, teachers will be better equipped to design, and deliver relevant and engaging lessons that address the language needs of their students.

Secondly, it is crucial to provide professional development opportunities that focus on the technical aspects of Computer Science. This can involve collaborations with Computer Science departments or industry professionals to offer workshops, seminars, or guest lectures that familiarize ESP teachers with the latest advancements, terminology, and trends in the field. By staying updated on the technical aspects of Computer Science, teachers can effectively integrate authentic materials and real-world examples into their lessons, making the learning experience more relevant and engaging for students. By investing in specialized training and professional development for ESP teachers in Computer Science, educational institutions can ensure that their instructors are equipped with the necessary expertise and resources to deliver effective and relevant language instruction. This will ultimately contribute to the satisfaction and success of Computer Science students in their ESP courses.

❖ **Extending instructional time**

Extending instructional time is a crucial recommendation to address the dissatisfaction expressed by Computer Science students regarding the outcomes of their ESP courses. By allocating extra hours for ESP instruction, students can benefit from increased exposure to specialized language and content relevant to their field. This additional time can be utilized to incorporate various interactive and engaging activities that cater to the specific language needs of Computer Science students. For instance, in-class discussions and debates can be conducted to enhance their oral communication skills and encourage them to express their

ideas on technical topics. Group projects and presentations can be assigned, allowing students to collaborate and apply their language skills in a practical context. This extended time can also be utilized for hands-on activities, such as analyzing technical documents, writing reports or research papers, and practicing technical vocabulary and expressions through interactive exercises.

❖ Sample lessons

Unit: Introduction to Technical English in Computer Science

Lesson 1: Building Technical Vocabulary

Objective: By the end of the lesson, students will be able to identify and understand key technical terms and abbreviations used in computer science.

➤ Abbreviation Presentations

Popular Full Forms		COMMON ACRONYMS	
PDF	Portable Document Format	RAM	Random Access Memory
USB	Universal Service Bus	ROM	Read-Only Memory
GPS	Global Positioning System	DVD	Digital Versatile Disc
WiFi	Wireless Fidelity	GPU	Graphics Processing Unit
URL	Uniform Resource Locator	HDD	Hard Disk Drive
SIM	Subscriber Identity Module	LAN	Local Area Network
SMS	Short Message Service	USB	Universal Serial Bus
HTTP	HyperText Transfer protocol	IP	Internet Protocol
JPG	Joint Photographic Experts Group	WWW	World Wide Web

Assign each participant a Computer Science abbreviation and ask them to prepare a short presentation about its meaning, usage, and significance in the field. Encourage them to include examples and visuals to make the presentations engaging and informative.

"Technical Term Match-up" activity:

Activity Description:

Provide a list of technical terms related to Computer Science and a corresponding list of definitions. Students will match the terms with their correct definitions.

Example Terms:	Example Definitions:
1. Algorithm	A. A finite sequence of steps for solving a logical or mathematical problem or performing a task.
2. Compiler	B. A program that translates all the source code of a program written in a high-level language into object code prior to execution of the program.
3. Database	C. A file composed of records, each containing fields together with a set of operations for searching, sorting, recombining, and other functions.
4. Encryption	D. The process of encoding data to prevent unauthorized access, especially during transmission.
5. Network	simulates real-world experiences.
6. Operating System	E. The software that controls the allocation and usage of hardware resources such as memory, central processing unit (CPU) time, disk space, and peripheral devices

Microsoft Computer Dictionary (2002)

Procedure:

1. Provide each student or group with a list of technical terms and a list of definitions.
2. Instruct students to match each term with its corresponding definition.

3. Encourage students to discuss and collaborate with their peers while completing the activity.
4. Monitor the progress of the students and provide support or clarification as needed.
5. Once the matching activity is complete, review the answers as a class and discuss any questions or uncertainties.

This activity helps students reinforce their understanding of technical terms and their correct usage within the field of computer science. It promotes active engagement and collaboration among students, allowing them to enhance their vocabulary and comprehension of important concepts.

Lesson 2: Listening and Comprehension

Objective: To enhance students' listening skills and comprehension of spoken English in the context of Computer Science.

➤ **Podcast Discussion**

Software Engineering Radio



<https://open.spotify.com/show/6UO3XQclSuNnGxB39QdAnL>

- Select a relevant computer science podcast episode.
- Assign students to listen to the episode before the class.
- In class, facilitate a discussion where students share their thoughts, insights, and questions about the podcast episode.
- Encourage them to use technical vocabulary and express their opinions on the topics discussed

Lesson 3: Reading and translation in Computer Science

Objective: To improve students' reading skills and ability to translate Computer Science-related texts.

"Reading and Vocabulary Identification" Activity:

Provide Computer Science articles or excerpts to students and ask them to read the text carefully. Their task is to identify and underline technical vocabulary related to computer science.

Procedure:

1. Distribute the Computer Science article or excerpt to each student or group.
2. Instruct students to read the text carefully and underline any technical vocabulary related to Computer Science.
3. Encourage students to actively engage with the text and use their prior knowledge to identify and understand the technical terms.
4. Monitor the progress of the students and provide support or clarification as needed.
5. After the reading task is complete, ask students to share the technical terms they underlined and discuss their meanings and relevance to the topic.
6. Facilitate a class discussion to explore the significance of the technical vocabulary in the context of computer science and its applications.

This activity helps students practice their reading comprehension skills while also developing their ability to identify and understand technical vocabulary specific to Computer Science. It allows students to engage with authentic materials, enhancing their overall language proficiency and subject-specific knowledge.

Activity 2: Translation Task

Objective: To reinforce understanding of technical terms and develop translation skills from English to the students' native language.

Procedure:

1. Provide the students with a set of sentences or short paragraphs containing technical terms related to Computer Science.
2. Instruct the students to translate the sentences or paragraphs accurately into their native language, paying attention to the correct translation of technical terms.
3. Encourage the students to use their knowledge of Computer Science concepts and technical vocabulary to ensure accurate translations.
4. Monitor the students' progress and provide assistance or clarification as needed.
5. After completing the translations, ask the students to share their translations and discuss any challenges or questions they encountered.
6. Facilitate a class discussion to review the translations and provide feedback on accuracy and appropriateness of the translated technical terms.

This translation task allows students to practice their translation skills while reinforcing their understanding of technical terms in Computer Science. It helps them develop their ability to accurately translate technical concepts into their native language, which is essential for effective communication in their field of study or work.

Lesson 4: Speaking and Role Play

Objective: To encourage students to use technical vocabulary and concepts in simulated real-life situations

Real-Life Examples:

Roles:

Customer: Facing technical issues with a computer or software.

Technical Support Representative: Providing assistance and troubleshooting guidance.

Roles:

Team Member 1: Providing updates on their assigned tasks for a computer science project.

Team Member 2: Sharing progress and challenges related to their assigned tasks.

Team Lead: Facilitating the meeting and ensuring coordination among team members.

These real-life scenarios provide students with practical situations where they can apply technical vocabulary and concepts in a simplified manner. They are designed to build confidence and familiarity with using technical terms in everyday interactions within their field.

Activity: Culture

Divide the class into small groups and assign each group a specific country or culture. Instruct each group to research and prepare a brief presentation or showcase highlighting the cultural aspects and contributions of their assigned country or culture to the field of Computer Science.

Lesson: General features of EST in technical writing (specific grammar)

Activity: Punctuation and Passive Voice

1. Provide a short paragraph or a series of sentences that are authentic containing instances of passive voice and punctuation errors.
2. Instruct the students to read the text carefully and identify the passive voice constructions and punctuation errors.

3.10. Limitations of the Study

The findings of this study can provide valuable insights into this topic. However, it is important to acknowledge and address the limitations that may impact the interpretation and generalizability of the results. These limitations include: the intended sample size of 88 students was not achieved, with only 50 participants due to non-response during exam periods. Moreover, the study only utilized a questionnaire and interviews as data collection tools. While these methods provide valuable qualitative and quantitative data, incorporating additional methods such as observation could have offered a more comprehensive understanding of real situation. Furthermore, it would have been beneficial to interview more

than one teacher, but time constraints prevented this. Additionally, although the study aimed to propose more activities suitable for Computer Science students, the implementation of these activities could not be carried out within the designated timeframe. By recognizing and discussing these limitations, a more comprehensive understanding of the study's outcomes and identify areas for further investigation could be gained.

3.11. Conclusion

This study shed light on the current state of ESP courses in the field of Computer Science, and the data collected through the questionnaire and teacher interview revealed several key insights. Firstly, the majority of Computer Science students expressed dissatisfaction with both the outcomes of their ESP courses, as well as the amount of time allocated for instruction. Secondly, the teacher's lack of experience in teaching ESP and limited knowledge of the subject matter posed challenges in meeting the students' needs effectively. Based on the data and findings presented, it is evident that ESP courses in the field of Computer Science require more attention and improvement. Accordingly, it is recommended to focus on student-teacher collaboration to align with language requirements. Provide training and support for teachers to enhance their technical expertise. Allocate sufficient time for comprehensive coverage of language skills and technical knowledge. By implementing these recommendations, the quality and overall experience of ESP courses in computer science can be significantly improved.

GENERAL CONCLUSION

GENERAL CONCLUSION

The primary objective of this research was to investigate whether Computer Science students are being introduced to technical English with specific attention given to teaching English language skills that are directly relevant and applicable to the field of Computer Science, or their English studies primarily revolve around general English. As it sought to investigate the level of satisfaction among Computer Science students regarding their ESP courses.

The research was conducted at Computer Science department, with second year students, at 8 Mai 1945 University in Guelma. The study utilized a questionnaire administered to students and interview conducted with ESP teacher. The findings provided insights that addressed the research questions and confirmed the research hypothesis, which postulated that Computer Science students are exposed to GE instruction rather than EST instruction by their teacher. The study results revealed that technical English was not extensively incorporated into ESP courses. This lack of emphasis on technical language resulted in students expressing dissatisfaction with the syllabus, indicating that their language skills were not effectively developed within the specific context of Computer Science. Moreover, a noteworthy point of concern raised by the students was the inadequacy of timing, compounding their discontent with the courses.

Therefore, it is advised to think about taking actions to improve the integration of technical English within the ESP courses. Specifically, attention should be given to the scheduling and duration of the ESP courses that should be reviewed and adjusted to ensure sufficient time for comprehensive language skill development within the specific context of Computer Science. By addressing these issues, students' satisfaction and language skills development within the field of Computer Science can be significantly improved.

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APPENDIX A: STUDENTS' QUESTIONNAIRE

APPENDIX B: TEACHER'S INTERVIEW

APPENDIX C: TRANSLATED STUDENTS' QUESTIONNAIRE استبيان الطلبة

APPENDICES

APPENDIX A

STUDENTS' QUESTIONNAIRE

Dear participant,

Sincerely greetings!

We, master 2 students at 8 Mai 1945 at the department of English, University of Guelma, are currently conducting a research that aims to know whether computer science students study English for specific purposes or just General English. Precisely, it seeks to investigate the exposure to technical language in English language classes of computer science students. In this regard, we would like to request your full cooperation and kindness in responding to the questionnaire. You are kindly asked to answer the questions and be sure that your responses will be kept strictly confidential and will be used only for the purposes specified in this research. It is expected that the questionnaire will take a few minutes to complete.

Your participation is highly valued, and your contribution to our research is sincerely appreciated. Thank you for your time and collaboration.

Sabrina Necibi / Hazar Laib

Second year master student

Faculty of letters and languages

Department of letters and English language

University of 8 Mai 1945, Guelma

Section 1: General Background

1) How old are you?

20>

20

20<

2) How many years have you been studying English?

years

3) How would you describe your English language proficiency level prior to starting your university studies?

- High
- Intermediate
- Low

Section 2: ESP NEEDS ANALYSIS

1) Which of these languages do you consider its proficiency is more important for your studies and work? (YOU MAY PICK MORE THAN ONE)

- English language
- French language
- BOTH

2) If it is English, why are you interested in studying English? (YOU MAY PICK MORE THAN ONE)

- To be able to engage in spoken conversations in the English language
- To understand lectures or talks delivered in English related to computer science

- To read and translate articles related to your field of study written in English
- To pass exams
- Other (please specify)

Note: English for Specific Purposes (ESP) is an approach to teaching English that is tailored to the specific language needs of learners based on their professional or academic contexts. However, **General English** refers to the teaching and learning of English language skills that are not specific to any particular profession or academic field.

3) Do you already know that you are supposed to take ESP course related to your field and not General English

- Yes
- No

4) What term do you use to refer to your English course :

- English for Specific Purposes
- or simply" English"

5) Are you interested in taking an ESP course that is specifically designed for students of Computer Science, with an emphasis on technical vocabulary and communication relevant to your field?

- Very interested
- Neutral
- Not interested

6) Does the English language curriculum you are currently studying cover: (YOU MAY PICK MORE THAN ONE)

- English grammar only
- Technical topics only (such as: programming languages and computer science terminology)
- Technical topics as well as English grammar

7) Do you feel that your English language classes have helped you develop good English related to Computer Science?

- Not at all helpful
- Moderately helpful
- Very helpful

8) Have you ever proposed certain activities to be added to the coursework?

- Yes
- No

If yes, did your teacher take the proposed activities into consideration? FOR THOSE WHO SAID YES

- Yes
- No

9) Do you think one hour and a half session per week is sufficient for an English course?

- Yes
- No

Section 3: EST GENERALITIES

1) Do you believe that English instruction is best provided by:

- Computer Science expert
- English language teacher
- Collaborative teaching (both Computer Science experts + English language teachers)

2) How important do you think it is for you, as a student, to be able to interpret visual information, such as graphs and charts?

- Essential
- Moderately important
- Somewhat important
- Not very important

3) Do you agree that understanding specialized vocabulary is crucial in English for Science and Technology (EST) courses.

- Agree
- Neutral
- Disagree

4) Exposure to authentic materials such as research papers and technical articles is beneficial for learning EST in computer science.

- Agree
- Neutral
- Disagree

Section 4: EST IN CLASSROOM

1) How well do you understand technical English related to Computer Science?

- Very well
- Adequately
- Not well

2) Do you feel confident enough to use English related to Computer Science in a professional setting?

- Yes
- No

3) Did your teacher provide you with any texts related to your field that you had to translate?

- Yes
- No

4) Does your English language teacher provide practical exercises or activities that help you practice technical language in the field of Computer Science and related disciplines?

- Rarely
- Often
- Sometimes
- Never

5) Are you able to recognize and use common abbreviations related to computer science in English, such as GUI, SQL, or HTTP?

- Yes
- No

If yes, from which source you learn it: (YOU MAY PICK MORE THAN ONE)

- Classroom education (ENGLISH COURSE)
- Personal research (MAY INCLUDE OTHER MODULES)

6) Does your teacher use textbooks about EST as a material to teach?

- Yes
- No
- I do not know

7) In class, would you prefer to learn: (YOU MAY PICK MORE THAN ONE)

- Individually
- In pairs
- In small groups

8) Which audio-visual materials do you prefer to use for learning: (YOU MAY PICK MORE THAN ONE)

- Video/DVD
- CD/Tape
- Pictures/Posters
- Internet Materials
- The board
- Other (please specify).

.....

9) Are audio-visual aids used in your lessons?

- Yes
- No

If so, please indicate which ones and how they are used

10) Which type of materials is commonly used within your English coursework? (you may choose more than one option).

- Articles
- Manuals
- Audio-visual aids
- Podcast excerpts
- diagrams and graphs
- None of them

11) Which one of the following activities do you find useful to enhance your English language? (YOU MAY PICK MORE THAN ONE)

- Role play
- Written exercises
- Language games
- Debates
- Other (please specify)

12) Do your teacher incorporate exercises that focus on pronunciation when teaching technical terms?

- Yes
- No

13) Does your teacher offer you cultural materials that are relevant to your field?

- Yes
- No

14) Have you ever encountered cultural difficulties when translating technical documents or articles from English to another language, or vice versa?

- Yes
- No

15) On a scale of 1 to 10, (where 1 is very dissatisfied and 10 is very satisfied), how would you rate the quality of the English course you are taking?

Very satisfied Dissatisfied

10 9 8 7 6 5 4 3 2 1 0

If you have any further comments or suggestions, please mention them.

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THANK YOU FOR YOUR COLLABORATION AND TIME.

APPENDIX B

TEACHER'S INTERVIEW

Dear participant,

Sincerely greetings!

We, second year master students at 8 Mai 1945 at the department of English, University of Guelma, are currently conducting a research that aims to know whether computer science students study English for specific purposes or just General English; precisely, it seeks to investigate whether computer science students have been exposed to technical language in their English language classes. In this regard, we would like to request your full cooperation and kindness in responding to the attached interview. You are kindly asked to answer the questions and be sure that your responses will be kept strictly confidential and will be used only for the purposes specified in this research. It is expected that the interview will take few minutes to complete.

Your participation is highly valued, and your contribution to our research is sincerely appreciated. Thank you for your time and collaboration.

Sabrina Necibi /Hazar Laib

Second year master student

Faculty of letters and languages

Department of letters and English language

University of 8 Mai 1945, Guelma

Section 1: General background

1) What is your academic degree or qualification?

- License
- Master
- Magister
- Phd

2) How long have you been teaching English ?

3) How long have you been teaching English in the department of Computer Science?

4) Have you taught English in other departments?

- Yes
- No

Section 2: ESP Needs Analysis

1) Have you received any training or professional development to teach ESP?

- Yes
- No

In your opinion, how important is teacher training?

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2) Do your students seem motivated in English classes?

- Yes
- No

If not, according to you, what are the reasons behind their lack of motivation?

- Lack of interest or passion
- Limited exposure to authentic materials
- Limited exposure to real-world applications
- Others (please specify)

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3) What kind of challenges do you face in teaching English to CS students? (YOU MAY PICK MORE THAN ONE)

- Class size
- Time constraints
- Students have different degrees of English proficiency.
- Lack of specialized English language resources for computer science
- Keeping up with advances in technology and incorporating them into language instruction
- Balancing language instruction with the technical content of the course
- Other (please specify)

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.....

4) Can you provide feedback on whether the amount of time allocated for the English module you are teaching is appropriate or not?

If it is not, please suggest the amount of time you would recommend and why?

.....
.....

5) Do you have the freedom to modify Computer Science syllabus?

- Yes
- No

. If not, are you required to strictly follow the instructions as provided?

- Yes
- No

6) Would you please briefly outline what the syllabus contains?

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.....
.....

7) Do you work with other English instructors to design the course syllabus for your computer science classes?

- Yes
- No

If yes, could you explain how you collaborate?

.....
.....
.....

8) To what extent do you take students' needs into consideration in course/syllabus design?

- High extent
- Some extent
- Not at all

9) Do you think that the current syllabus/course is effective in meeting students' goals and expectations?

- Yes
- No.

10) What do students need to do in order to improve English in your subject area? (YOU MAY PICK MORE THAN ONE)

- Delivering presentations
- Participating in conferences
- Reading specialized literature
- Writing abstracts
- Translating from English to another language
- Listening to presentations and lectures
- Other (please specify)

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Section 3: EST Generalities

1) Do you believe that English instruction is best provided by:

- Subject experts
- Language teachers
- Collaborative teaching

2) Have you received any training or done any research about teaching EST?

- Yes
- No

3) In your experience, what are some of the key differences between teaching EST and teaching General English (GE)? (YOU MAY PICK MORE THAN ONE)

- EST vocabulary is more technical and specialized compared to GE vocabulary.
- EST requires a higher level of subject-specific knowledge compared to GE.
- EST grammar includes unique structures that are specific to certain subjects that are not present in GE.
- EST often involves the use of specialized visuals and multimedia that are not commonly used in GE.
- EST students may have a stronger motivation to learn EST due to their interest in their fields compared to GE.
- EST learning often involves collaborative group work and a focus on exploration and questioning compared to GE
- EST students may need to be exposed to a wider range of technical and scientific writing genres compared to GE.
- Others (specify please)

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.....

4) Are there any cultural considerations that need to be taken into account when teaching EST?

- Yes
- No

5) Does pronunciation play a significant role in understanding and communicating scientific and technical information in English?

- Yes
- No

6) Can the use of technology and online resources support EST learning?

- Yes
- No

7) How do integrated skills activities help students develop their language skills?

- By focusing on one language skill at a time
- By combining two or more language skills in a single activity
- By using only authentic materials in the classroom
- By providing students with more individualized instruction

8) How effective authentic materials are in improving students' technical English for computer science studies?

- Highly effective
- Some what effective
- Not effective

Section 4: EST in Classroom

1) Which language do you use when delivering a lesson? (YOU MAY PICK MORE THAN ONE)

- English
- French
- Arabic

whatever your answer, please explain why

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.....

2) To what extent do you incorporate technical language into the Computer Science syllabus:

- Never
- To some extent
- To high extent

3) Do you include translation activities in your course to provide opportunities for your computer science students to practice their language and technical skills?

- Yes
- No

4) Do you incorporate culture in your courses?

- Yes
- No

If yes, would you explain how please

.....
.....
.....

5) Which type of teaching materials, produced by professionals in the field of Computer Science, do you use? (YOU MAY PICK MORE THAN ONE)

- Technical documents
- Manuals
- Journal articles
- Presentations
- Videos
- Podcasts
- Others(specify please)

.....
.....

6) Which language skill do you emphasize the most in teaching English to your CS students? (CLASSIFY THEM FROM 1 TO 4)

- Reading
- Writing
- Speaking
- Listening

7) Which specific activities within the reading skill do you use?

- Reading textbooks on computer science
- Reading technical articles on computer science
- Reading course handouts on computer science

- Reading texts on Computer Science
- Reading study notes on computer science
- Other (please specify)

.....

.....

8) Which specific activities within the writing skill do you use?

- Taking notes in class
- Translating
- Summarizing and writing abstracts
- Writing a report
- Writing articles
- Writing emails
- Other (please specify)

.....

.....

9) Which specific activities within the speaking skill do you use?

- Taking part in conference about computer science
- Giving oral presentations computer science
- Asking questions in class
- Speaking to native speakers
- Problemsolving
- Other (please specify)

.....

.....

10) Which specific activities within the listening skill do you use?

- Following lectures
- Following oral questions/answers
- Listening to oral presentations
- Listening to teacher's talk
- Other (please specify)

.....
.....

11) What aspects of English language learning do you prioritize in your ESP courses? (YOU MAY PICK MORE THAN ONE)

- Technical vocabulary
- Basic grammar rules
- Reading
- Pronunciation
- Writing and composition
- Culture
- Something else (please specify)

12) Do your lessons include EST features such as:

- graphical (punctuation, paragraphing, diagrams, graphs, figures, etc)
- lexical features (using long and big words, nominal style, technical terms...etc)
- Syntactic Features (using passive voice, declarative sentences, present tense, short and long sentences, prepositional phrases)
- All of them

13) Do you explain your lessons using technical vocabulary when needed

- Yes
- No

14) Do you incorporate exercises that focus on pronunciation when teaching technical terms?

- Yes
- No

15) Have you experienced any difficulties with the media resources in your classes such as:

- Internet
- Datashow
- Laptops

16) If you have any suggestions or comments please state them here

.....

.....

.....

THANK YOU FOR YOUR COLLABORATION.

APPENDIX C

استبيان الطلبة TRANSLATED STUDENTS' QUESTIONNAIRE

عزيزي المشارك

مع خالص التحيات !

نحن طالبان في قسم اللّغة الإنجليزية في السنة الثانية ماستر، جامعة 8 ماي 1945 قالمة نجري حاليًا بحثًا يهدف إلى معرفة ما إذا كان طلبة اختصاص "الإعلام الآلي" يدرسون اللّغة الإنجليزيّة للأغراض الخاصة أو اللّغة الإنجليزية العامة فقط، كما يسعى إلى التحقق من تدريس اللغة التقنية في حصص اللغة الإنجليزية لطلبة الإعلام الآلي، في هذا الصدد نود أن نلتمس تعاونكم الكامل في الرد على الاستبيان

يُطلب منكم التفضل بالإجابة على الأسئلة والتأكد من أن إجاباتكم ستبقى سرية تمامًا ولن يتم استخدامها إلا للأغراض المحددة في هذا البحث، ولن تتجاوز مدة الإجابة عن هذا الاستبيان بضع دقائق. نقدر بصدق مساهمتكم في بحثنا، مع خالص الشكر على وقتكم وتعاونكم

صبرينة نصيبي / هزار العايب

طالبة في السنة الثانية ماستر

كلية الآداب واللغات

قسم الآداب واللغة الإنجليزية

جامعة 8 ماي 1945 قالمة

أولاً:

1. كم عمرك

>20

20

<20

2. كم سنة درست اللغة الإنجليزية؟ سنة

3. كيف تصف مستوى اجادتك للغة الإنجليزية قبل بدء دراستك الجامعية؟

جيد ●

متوسط ●

ضعيف ●

4. المستوى الحالي للغة الإنجليزية المتعلقة بمجال الإعلام الآلي

- جيد ●
- متوسط ●
- ضعيف ●

ثانياً:

1. أي من اللغات التالية تعتبر إتقانها أكثر أهمية لدراستك؟ (يمكنك اختيار أكثر من خيار واحد)

- اللغة الإنجليزية ●
- اللغة الفرنسية ●

2. ما مدى أهميتها في مجال دراستك أو عملك في رأيك؟

- مهم جداً ●
- غير مهم ●

3. إذا كانت اللغة الإنجليزية، فلماذا أنت مهتم بدراسة اللغة الإنجليزية؟ (يمكنك اختيار أكثر من خيار واحد)

- لتكون قادراً على الانخراط في محادثات منطوقة باللغة الإنجليزية ●
- لفهم المحاضرات أو المحادثات التي يتم تقديمها باللغة الإنجليزية المتعلقة بالإعلام الآلي ●
- لقراءة وترجمة المقالات المتعلقة بمجال دراستك مكتوبة باللغة الإنجليزية ●
- لاجتياز الامتحانات ●
- غير ذلك (يرجى التحديد)

ملاحظة: اللغة الإنجليزية لأغراض محددة ((ESP هي منهج لتدريس اللغة الإنجليزية مصمم خصيصاً للاحتياجات اللغوية المحددة للمتعلمين بناءً على سياقاتهم المهنية أو الأكاديمية. بينما تشير اللغة الإنجليزية العامة إلى تعليم وتعلم مهارات اللغة الإنجليزية غير المخصصة لأي مهنة أو مجال أكاديمي معين).

4. هل كنت تعلم أنه من المفترض أن تدرس ESP المتعلقة بمجال عملك وليس اللغة الإنجليزية العامة

نعم •

لا •

5. ما المصطلح الذي تستخدمه للإشارة إلى مادة اللغة الإنجليزية:

اللغة الإنجليزية لأغراض محددة ESP •

"الإنجليزية" •

6. هل أنت مهتم بدراسة مادة ال ESP المصممة خصيصًا لطلبة الإعلام الآلي، مع التركيز على المفردات التقنية

والتواصل ذي الصلة بمجالك؟

مهتم جدا •

حيادي •

غير مهتم •

7. هل يغطي منهج اللغة الإنجليزية الذي تدرسه حاليًا (يمكنك اختيار أكثر من خيار واحد)

قواعد اللغة الإنجليزية فقط •

الموضوعات التقنية فقط (مثل: لغات البرمجة ومصطلحات الإعلام الآلي) •

الموضوعات التقنية وكذلك قواعد اللغة الإنجليزية •

8. هل تعتقد أن دروس اللغة الإنجليزية ساعدتك على تطوير لغة إنجليزية جيدة تتعلق بالإعلام الآلي؟

غير مفيد على الإطلاق •

مفيد إلى حد ما •

مفيد جدا •

9. هل سبق لك أن اقترحت أنشطة معينة لإضافتها إلى المهام الدراسية؟

نعم •

لا •

10. إذا كانت الإجابة بنعم، فهل أخذ معلمك الأنشطة المقترحة بعين الاعتبار؟

نعم •

لا •

11. هل تعتقد ان مدة ساعة ونصف اسبوعيا كافية لدراسة اللغة الإنجليزية

ثالثاً:

1. في رأيك، تعليم اللغة الإنجليزية يتم بشكل أفضل عن طريق
 - خبير في الإعلام الآلي
 - مدرس لغة انجليزية
 - التدريس التعاوني (خبراء في الإعلام الآلي + مدرسو اللغة الإنجليزية)
2. ما مدى أهمية قدرتك على تفسير المعلومات المرئية، مثل الرسوم البيانية والمخططات؟
 - ضروري
 - معتدل الأهمية
 - مهم إلى حد ما
 - ليست مهمة جدا
3. إلى أي مدى تتفق بأن فهم المصطلحات المتخصصة أمر حاسم في دروس اللغة الإنجليزية للعلوم والتكنولوجيا؟
 - موافق
 - محايد
 - لا أوافق
4. يعد التعرض لمواد أصلية مثل الأوراق البحثية والمقالات التقنية مفيداً لتعلم اللغة الإنجليزية للعلوم والتكنولوجيا
 - في الإعلام الآلي
 - موافق
 - محايد
 - لا اوافق

رابعاً:

1. ما مدى فهمك للغة الإنجليزية التقنية المتعلقة بالإعلام الآلي؟
 - جيد جدا
 - بشكل كاف
 - ليس جيدا
2. هل تشعر بالثقة الكافية لاستخدام اللغة الإنجليزية المتعلقة بعلوم الكمبيوتر في بيئة مهنية؟

• نعم

• لا

3. هل قدم لك مدرسك أي نصوص تتعلق بمجالك وطُلب منك ترجمتها؟

• نعم

• لا

4. هل يقدم مدرس اللغة الإنجليزية الخاص بك تمارين وأنشطة عملية تساعدك على ممارسة اللغة التقنية في مجال

الإعلام الآلي والتخصصات ذات الصلة؟

• نادرًا

• غالبًا

• أحيانًا

• أبدًا

5. هل أنت قادر على التعرف على الاختصارات الشائعة المتعلقة بالإعلام الآلي واستخدامها في اللغة الإنجليزية،

مثل GUI أو SQL أو HTTP؟

• نعم

• لا

6. إذا كان الجواب بنعم، فمن أي مصدر تتعلم ذلك؟: (يمكنك اختيار أكثر من اختيار واحد)

• التعليم الصفي (في القسم)

• البحث الشخصي

7. هل يستخدم معلمك كتبًا مدرسية حول اللغة الإنجليزية للعلوم والتكنولوجيا كمواد للتدريس؟

• نعم

• لا

• لا أعلم

8. في القسم، هل تفضل أن تتعلم: (يمكنك اختيار أكثر من واحد)

• بشكل فردي

• زوجي

● في مجموعات صغيرة

9. ما هي المواد السمعية والبصرية التي تفضل استخدامها للتعلم: (يمكنك اختيار أكثر من واحدة)

● فيديو / DVD

● قرص مضغوط / شريط

● الصور / الملصقات

● مواد من إنترنت

● السبورة

● غير ذلك (يرجى التحديد).

هل تستخدم الوسائل السمعية والبصرية في دروسك؟

● نعم

● لا

إذا كانت الإجابة بنعم، يرجى تحديد المواد المستخدمة وكيفية استخدامها

10. ما هي النوعية المستخدمة بشكل شائع في دروس اللغة الإنجليزية الخاصة بك؟ (يمكنك اختيار أكثر من خيار

واحد)

● مقالات

● كتيبات

● المعينات السمعية والبصرية

● مقتطفات بودكاست

● المخططات والرسوم البيانية

● لا أحد منهم

11. أي من الأنشطة التالية تجده مفيداً لتحسين لغتك الإنجليزية؟ (يمكنك اختيار أكثر من واحد)

● لعب الأدوار

- تمارين كتابية
- ألعاب اللغة
- المناظرات

أخرى (حدد)

12. هل يضمّ المدرّس تمارين تركيز على النطق عند تدريس المصطلحات التقنية؟

- نعم
- لا

13. هل واجهت صعوبات ثقافية عند ترجمة الوثائق أو المقالات التقنية من الإنجليزية إلى لغة أخرى أو العكس؟

- نعم
- لا

14. هل يقدم لك معلمك مواد ثقافية ذات صلة بمجال عملك؟

- نعم
- لا

15. على مقياس من 1 إلى 10، (حيث 1 يعني عدم الرضا و10 يعني الرضا التام)، كيف تقيم جودة مادة اللغة

الإنجليزية التي تدرسها؟

مرتاح تمامًا	غير راضٍ
10	0
9	
8	
7	
6	
5	
4	
3	
2	
1	

16. إذا كان لديك أي تعليقات أو اقتراحات أخرى ، يرجى ذكرها.

.....

.....

.....

.....

شكرًا لك على تعاونكم ووقتكم.

RÉSUMÉ

L'importance d'Anglais pour des Objectifs spécifiques (AOS) réside dans sa capacité à fournir aux apprenants les compétences et les connaissances linguistiques nécessaires pour communiquer efficacement dans le domaine de leur choix. Dans le monde globalisé d'aujourd'hui, où l'anglais est largement utilisé comme lingua franca, les professionnels doivent posséder non seulement une maîtrise générale de la langue anglaise, mais aussi un vocabulaire spécialisé et des modèles de discours pertinents dans leurs domaines d'expertise respectifs. Cette étude vise à évaluer l'efficacité des cours d'AOS et la présence du langage technique, en particulier dans le contexte de l'anglais pour la Science et la Technologie (AST). Il est supposé que l'enseignement reçu par les étudiants en informatique de la part de leur professeur se concentre davantage sur l'anglais général que sur AST. L'objectif est d'évaluer si les cours d'AOS intègrent avec succès les fonctionnalités AST et répondent aux besoins linguistiques des étudiants en informatique ou non. Pour atteindre l'objectif susmentionné, cette étude a utilisé une approche mixte combinant des analyses qualitatives et quantitatives. Des données quantitatives ont été recueillies au moyen d'un questionnaire afin d'évaluer les attitudes des étudiants quant à l'efficacité de leurs cours. De plus, un deuxième ensemble de données qualitatives a été recueilli au moyen d'une entrevue qui visait à aborder l'expérience de l'enseignante et la mise en œuvre de l'AST en classe. Les résultats de l'étude ont mis en évidence plusieurs aspects importants liés aux cours d'AOS dans le domaine de l'informatique. La compréhension des principes de l'AOS par l'enseignante et l'intégration du langage technique en classe étaient limitées. De surcroît, les étudiants ont exprimé leur insatisfaction à l'égard du programme et ont estimé que les cours n'améliorent pas efficacement leurs compétences linguistiques dans le domaine de l'informatique. Ainsi, les résultats ont confirmé l'hypothèse selon laquelle les étudiants en informatique sont exposés à un enseignement en anglais général plutôt qu'à un enseignement en AST de la part de leur

professeur. En outre, une préoccupation notable soulevée par les étudiants était la question de timing inapproprié. En conclusion, il est recommandé de donner la priorité à la formation des enseignants en tant que facteur clé pour améliorer les cours d'AOS, et d'accorder davantage de temps en classe afin de couvrir de manière exhaustive les compétences linguistiques et les connaissances techniques requises.

Mots-clés : *AOS, AST, Langage technique, Informatique.*

الملخص

تكمن أهمية اللغة الإنجليزية لأغراض خاصة (أ أ خ) في قدرتها على تزويد المتعلمين بالمهارات والمعرفة اللغوية المطلوبة للتواصل بشكل فعال في المجال الذي يختارونه. في عالم اليوم المعولم، حيث تستخدم الإنجليزية على نطاق واسع كلغة عالمية، لا يحتاج المحترفون إلى امتلاك إتقان عام للغة الإنجليزية فحسب، بل أيضًا امتلاك مفردات وأنماط خطاب متخصصة ذات صلة بمجالات خبرتهم الخاصة. تسعى هذه الدراسة إلى تقييم فعالية دورات أ أ خ ووجود اللغة التقنية، لا سيما في سياق اللغة الإنجليزية للعلوم والتكنولوجيا (أ ع ت). الهدف هو تقييم ما إذا كانت دورات أ أ خ تدمج بنجاح أ ع ت، وتفي بالاحتياجات اللغوية لطلاب الإعلام الآلي أم لا. من المفترض أن يركز التعليم الذي يحصل عليه طلاب الإعلام الآلي من مدرسهم على اللغة الإنجليزية العامة بدلًا من أ أ خ. لمعالجة الغرض المذكور أعلاه. اعتمدت هذه الدراسة منهجًا مختلطًا يجمع بين التحليل الكمي والتحليل النوعي، تم جمع البيانات الكمية من خلال استبيان لتقييم آراء الطلاب حول فاعلية دوراتهم. بالإضافة إلى ذلك، تم جمع مجموعة ثانية من البيانات النوعية من خلال مقابلة تهدف إلى استكشاف تجربة المعلم وتطبيق اللغة الإنجليزية للعلوم والتكنولوجيا في الصف. كشفت نتائج الدراسة عن عدة جوانب مهمة تتعلق بمقررات أ أ خ في مجال الإعلام الآلي. كان فهم المعلم لمبادئ أ أ خ ودمج اللغة التقنية في الفصل محدودًا. علاوة على ذلك، أعرب الطلاب عن عدم رضاهم عن المنهج، وأن الدورات لم تعزز بشكل فعال مهاراتهم اللغوية في سياق الإعلام الآلي. وهكذا، أكدت النتائج الفرضية المطروحة أن طلاب اللغة الإنجليزية العامة بدلًا من أ ع ت من قبل معلمتهم. بالإضافة إلى ذلك، كان أحد الشواغل الملحوظة التي أثارها الطلاب هو مسألة التوقيت غير المناسب. في النهاية، يوصى بإعطاء الأولوية لتدريب المعلمين كعامل رئيسي في تحسين دورات أ أ خ، وتخصيص المزيد من وقت الفصل للسماح بالتغطية الشاملة للمهارات اللغوية والمعرفة التقنية المطلوبة.

الكلمات المفتاحية: اللغة الإنجليزية لأغراض خاصة (أ أ خ)، اللغة الإنجليزية للعلوم والتكنولوجيا (أ ع ت)، اللغة التقنية،

الإعلام الآلي