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*Investigating Students' Reading Difficulties in Comprehending ESP Texts  
and the Strategies they Use to Overcome them:*

*The Case of First Year Electronics Students' at the Institute of Electricals  
and Electronics Engineers of Boumerdes*

**Presented by:**

**Samia HAMOUNI**

**Sonia TAMAZIRT**

**Board of Examiners:**

Mrs AIMEUR Roza,	MAA MMUTO.....	<b>Chair</b>
Mrs TABTI Kahina,	MAA MMUTO.....	<b>Supervisor</b>
Mrs AMMOUR Kamela,	MAA MMUTO.....	<b>Co-supervisor</b>
Mrs TACINE Houria,	MAA MMUTO.....	<b>Examiner</b>

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# *Dedications*

*To my beloved parents: Amar and Zahia,*

*To my brothers: Sofiane and Ali,*

*To my sisters: Lilia, Dahbia and Kahina,*

*To all my family members,*

*To my Friends: Madghacene, Smail, Sonia, Nadia, Fatma, Melissa,  
Hakima, Thinhinane, Dyhia.....*

*Samia*

*To my beloved parents*

*To my brother, and sisters*

*To all my esteemed friends,*

*Sonia*

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### **Abstract**

*The present research seeks to investigate the difficulties that ESP students encounter in comprehending texts in their field of study and to know whether they use strategies to overcome difficulties. To achieve this objective, first year students of the Electronic department at the Institute of Electrical and Electronic Engineering at Boumerdes have been taken as a sample. For the sake of empirically investigating the topic, a mixed method approach has been adopted to gather the necessary data. This investigation has used the Quantitative Statistical Procedures to analyze the numerical data gathered from the questionnaire, and Qualitative Content Analysis to interpret the qualitative data of the open-ended questions of both the questionnaire and the interview. The present work relies on the schema theory which was developed by Richard Anderson in the 1970s. This theory deals with the prior knowledge and it is used in our research to approve that prior knowledge has an importance in reading different ESP text. The findings of the study illustrate that the majority of the participants find difficulties in comprehending ESP texts. This is mainly due to the transitional phase that students have undergone from secondary school to higher education where their specific field of study is based on English as the medium of instruction. In the account of these difficulties in reading comprehension, students' are aware of using some strategies such as skimming, scanning, prediction and so on, to solve their problems of miscomprehension.*

**Key Words:** *ESP, difficulties, comprehending texts, strategies.*

### List of Abbreviations and Acronyms

- **ESP:** English for Specific Purposes
- **ESL:** English as a Second Language
- **EFL:** English as a Foreign Language
- **IEEE:** Institute of Electrical and Electronic Engineering
- **QCA:** Qualitative Content Analysis
- **H :**hypothesis
- **Q :** Question

## List of Symbols

- %: Percentags
- X: The Calculated percentages
- Z: The Value of the Answer
- Y: The Total Number of Participants
- =: Equal

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# **General Introduction**

### **Statement of the problem**

Reading plays a crucial role in language teaching and learning especially in a context where English is taught as a foreign language. It is an important skill for academic achievement and a key for success mainly for English for Specific Purposes(ESP) learners. In fact, ESP emphasizes the reading skill since it is an essential skill in many teaching and learning situations. This emphasis lies on the fact that ESP learners need to be able to read, well understand, learn about something specific, gather information and, thus, achieve academic and professional success. Additionally, reading is regarded as a highly complex act that involves a combination of different processes in which the reader interacts with the piece of writing to derive both meaning and pleasure.

Due to the complex nature of reading, ESP learners face many problems when they read technical authentic texts. As Grabe (2009) claims, though students studying English as a second or foreign language have a good mastery of English grammar, vocabulary and lexis, they miscomprehend academic texts, taking into account that these texts are informational and difficult at the same time.

Since reading is seen as one of the most challenging tasks, students should be aware of using some strategies that help them in making sense of the text, which is comprehension. Westwood (2008) argues that weak readers read very little and are the very students who use a variety of tactics to reduce the amount of time they spend engaging with books. Hence, they think that reading is a frustrating process that will lead them to an embarrassing task, which would affect their self-esteem, confidence, and motivation. Nevertheless, comprehending ESP texts can be attained when students are equipped with a number of strategies that assist them in constructing meaning from those texts, which is the ultimate goal in reading in general and in academic reading in particular.

ESP students have different purposes in their reading comprehension, especially first year students' at the Department of Electronics at the Institute of Electrical and Electronic Engineering of Boumerdes (IEEE), where they are exposed to a variety of texts related to their subject area. The latter includes issues in technical courses. The students, then, after having spent three academic years in Secondary School studying different kinds of modules in Arabic, are supposed, in their first year at university, to read fluently and overcome miscomprehension problems. However, it has been noticed that students in that stream face difficulties in comprehending the suggested texts including articles, chapters, books, etc; whether to be analyzed, synthesized, summarized or for further reading. After having conducted an informal interview with some of the first year students of the Department of Electronics, they claimed that they have not been trained to read effectively and have not been accustomed to such kind of materials in terms of specific vocabulary and area of study. Thus, in this research, the addressed issue is related to the students' difficulties encountered while reading ESP texts, and whether they apply any technique or strategy to exceed problems faced while reading.

Many works have been conducted about the topic of reading skills in different ways and facts. As the work of Alaa' Yaseen (2013) which is entitled "*The Reading Difficulties in English and How to Deal with Them as Perceived by Teachers and Students in Nablus District*", in the graduate studies faculty at An- Najah National University. The second work in 2013 also under the name "*the Use of Reading Strategies in Improving Reading Comprehension: the case of first year LMD English students*" conducted by Ms Rouai Souhila at Kasdi Merbah University of Ouargla. However, students' reading difficulties in comprehending ESP texts and the strategies they use to overcome them has never been conducted in MMUTO. This area is going to be the purpose of this study.

### **Aims and Significance of the Study**

The major aim of this study is to investigate how first year Electronics students in IEEE of Boumerdes overcome their academic reading difficulties, and the importance of using strategies for comprehending ESP texts, mainly the ones dealing with topics concerning Electricity and Electronics. The present work seeks to achieve two main objectives. The first objective is to identify the reader's difficulties in comprehending ESP texts. The second is to discover the different strategies that ESP students use in order to overcome these difficulties.

### **Research Questions and Hypotheses**

This study addresses the following research questions:

1. Do first year Electronics students encounter problems when reading ESP texts?
2. Do first year Electronic students use strategies to overcome their reading difficulties?

The hypotheses suggested in this study are:

**H1.** First year Electronic students at the IEEE encounter problems when reading texts in their field.

**H2.** First year Electronics students use some strategies such as skimming, scanning...etc to comprehend ESP texts and overcome their reading difficulties.

### **Research Techniques and Methodology**

In the present study, a questionnaire was designed to students for gaining insight, about their reading habits, their ways of reading ESP texts to attain comprehension and the difficulties faced when reading these kinds of texts. Besides, an Interview was designed for teachers to get more information about the techniques used by students when reading ESP texts and the difficulties they faced.

The theoretical framework on which the study relies is labeled schema theory, which was introduced by Frederic Bartlett in 1932, and then it was further developed during the 1970s by the American Educational psychologist Richard Anderson. Schema theory describes how knowledge is acquired and organized. As Widdowson (1983) argues, schema theory is a theory of acquiring knowledge processing and retrieving. It is the technical term used to describe how people process, organize and store information in their heads.

### **Structure of the Dissertation**

The present work is organized following the traditional complex structure. It is divided into two main sections: theoretical and practical parts. Thus, it starts with a General Introduction that gives the reader insight into the content and the topic of the work. It is followed by a chapter labeled Review of the Literature in which the theoretical framework presented in detail. Then, the methodological chapter describes the participants as well as the data collection and data analysis tools. After that, Presentation of the Findings followed by their Discussion in the next chapter. Finally, a General Conclusion attempt to provide answers to the research questions on the basis of the results obtained from the previous chapter; it therefore checks the validity of the suggested hypotheses.



***Review of Literature***

## **Introduction**

This chapter sheds light on one of the fundamental language skills which is “Reading”. In an aim at providing an overview of reading in ESP and highlighting the difficulties that may influence the comprehension of texts, theoretical concepts are meant to serve as tools to analyze the comprehension of reading texts in ESP, under the investigation of the Electronics students’ at IEEE of Boumerdes. The chapter deals with the different difficulties that ESP readers face in reading comprehension of ESP texts. Then, it presents various strategies and techniques that are used to overcome reading difficulties in an ESP text. This chapter ends with reviewing the theoretical framework where the schema theory is included.

## **I. The Reading Skill**

### **1. Definition of Reading**

Reading is a complex cognitive ability that is considered as one of the basic language skills which can help students in learning a foreign language. However, it is used more by most of English as a foreign language (EFL) learners who always need to read various printed materials such as books, articles and so on. Goodman (1988: 11) defines reading as “*the process which requires readers to make the interpretation of graphic signs, delineates reading in a variety of ways, i.e. matching sounds to letters*”. In this sense, reading is a cognitive process which could help readers to create meaning from texts. In addition, reading is viewed as an interactive process between the readers and the writers by which the former have to understand the message of the passage and then to decode it.

Moreover, it is a dynamic process in which information from the text and the knowledge possessed by the reader interact to enable him to construct meaning before, during, and after reading. In this respect, Goodman (1973:162) states that the learners: “[...] *interact with a*

*message encoded by the writer. He concentrates his total prior experience and concepts he has attained, as well as the language competence he has achieved*". Therefore, reading is considered a difficult language skill. It is not a passive task but rather an active one. In fact, reading requires both the learning mental and the experiential input of who is expected to comprehend the written message. It is demonstrated that reading is silent and private (Alderson, 2000; Davies, 1995). That is to say, reading is seen as a cognitive process that involves the eyes and the brains.

## **1.2. Reading Comprehension**

Reading comprehension is the process of constructing meaning from the text. The goal of all reading is ultimately targeted at helping a reader to comprehend a given text. Reading comprehension involves at least two people: the reader and the writer. Kirby (2006:161) states that "*The process of comprehending involves decoding the writer words and using background knowledge to construct an approximate understanding of the writer's message*". In brief, the main purpose of reading is to comprehend the text being read. If comprehension does not take place then the activity of reading is without purpose. Grabe (2009) defines comprehension as follows:

Comprehension is not a unitary phenomenon but rather a family of skills and activities. A general component in many definitions of comprehension is the interpretation of the information in the text....at the core of comprehension is our ability to mentally interconnect different events in the text and form a coherent representation of what the text is about. ( Grabe, 2009)

The authors explain that the comprehension process is a range of skills and activities that help to interpret the information in a text and understand it as a coherent unit. Therefore, reading comprehension is a task that learners really need to draw a general idea about the text.

### 1.3 The Reading Skill in English for Specific Purposes

Many teachers look into increasing the effect of applying and mastering the written language to learning and teaching. Most scholars would agree that reading is one of the most important skills for educational and professional success (Alderson, 1984). In particular, reading occupies a place in ESP since it is at the heart of different tasks done by ESP learners, either in acquiring knowledge of the target community discourse or in the combination with the use of other skills as writing.

#### 1.3.1 Definition of ESP

ESP has been defined by many theorists in different ways, but what has been emphasized by most of them is that it is a discipline based on learners' needs according to their specialty. Hutchinson and Waters (1987:19) define ESP as an "*approach*" rather than a "*product*" which means that ESP does not involve a particular kind of language, teaching materials or methodology but it is an approach to language learning, which is based on learners' need.

#### 1.3.2 Reading in ESP

Reading in ESP offers students the main source of knowledge and facilitate the discussion of the topic within their own field of study. Anthony (1997) argues that reading is relevant because it provides learners with the vocabulary and the knowledge that will be used in their professions. Accordingly, many educational institutions have adopted ESP reading materials as the basis of curricula. In addition, reading is at the center of much of what ESP students do, both in acquiring knowledge of the target community discourse and in conjunction with the use of another skill, such as writing.

Reading occupies what might be called a curious place in ESP. This is of great importance to ESP learners because of the growing number of material read in English. As Jordan

(1997:143) states “*when students read, it is for a purpose*”. However, ESP learners may read to extract a certain kind of information, for an aim to decipher a text's codes for their purpose. This extracted information from different texts is linked to their knowledge of the basic grammatical relation and word function that helps in clarifying and understanding any text. The use of dictionaries is also beneficial when they try to decode the texts in their field of study. In fact, some ESP learners aim to use English flexibly and read the content of any source of information fluently, either for pleasure or for academic purposes. Here, a balanced development of all the language skills is highly required. They want to read English with a complete understanding of a text without referring to the use of dictionaries or translation.

## **2. Problems Faced by ESP Readers**

Students in the ESP setting are asked, for example, to read articles, papers, and textbooks related to their field of study to which they are supposed to know their structures. In case students fail at recognizing how texts are structured and organized, they will encounter different problems in spotting the information and the text comprehension. Studies were carried out by Mandler (1978) and then by other researchers demonstrate that when the rhetorical patterns of an organization have been changed while the content is constant, L1 students found difficulty in comprehending the text. This study has been replicated by Carrel (1983) on L2 students. She found that those students might know texts which are organized, but they are unaware of this knowledge, which means that much research is needed in this area of study.

### **2.1. Language Related Problem**

Before proceeding, we have to clarify the linguistic competence terminology used for this research. As used by Noam Chomsky (1957) and other linguists, linguistic competence is an evaluative term, rather it refers to the innate linguistic knowledge that allows a person to link sounds with meaning. In other words, the ability to create and understand sentences with a set of

grammatical rules including sentences they never heard before. Linguistic competence includes components such as phonetics, phonology, syntax, semantics, and morphology.

### **2.1.1 Lexical Problems**

Insufficient knowledge of vocabulary limits the reading comprehension of many students. As a result, many ESP students face difficulties because of the deficient vocabulary knowledge, which would automatically be a reading challenge.

The student finds it difficult to learn vocabulary, due to the fact that learning vocabulary is not as easy as it seems to be. In fact, knowing a word involves knowing many things. According to Qian (1999) it involves knowing its (a) pronunciation and orthography, (b) its morphological properties, (c) its syntactic properties and collection, (d) its meaning, (e) its register, and (f) its frequency.

### **2.1.2 Syntactic Problems**

Syntax is one of the fundamental aspects of reading and speaking. In English, a word is important for establishing the relationship of meaning between words and students. Successful readers need to be able to recognize the grammatical forms that indicate when information has been embedded, conjoined, or moved within a sentence. Syntactic ties also provide a means to indicate how information is related across the boundaries of sentences (Halliday and Hassan, 1976). Having said so, syntax is likely to be the source of comprehension difficulties. For many EFL students, long sentences and difficult syntax can block comprehension even when the vocabulary is familiar (Nuttal, 1996). Faced with long complex sentences, learners get confused and fail to make the difference between main and subordinate clauses, not to mention, they lose focus and fail to remember any of the reading materials introduced to them.

## 2.2. Reading Problems Related to Lack of Prior Knowledge

Stevens (1985) defines background knowledge quite as simple as what one already knows about the subject. It is called schema, relevant background knowledge, or just experience. When students make a connection to the text they are reading their comprehension increase. The good readers constantly try to make sense out of what they read by seeing how it fits with what they already know.

However, students are not encouraged to activate their prior knowledge which leads to major difficulties in making a connection with the text, so the presented text is simply rejected because of its content which contains unfamiliar information. Moreover, the cultural background may be a source of comprehension problems for many students. Carrel and Eisterhold (1983) demonstrate that reading comprehension is culturally biased and culturally biased, meaning that when students read culturally familiar texts, their understanding of the text is better than when they read texts that are culturally unfamiliar.

In spite of the fact that prior knowledge is important in enhancing students' comprehension of the text, many teachers fail to encourage their students to relate what they already know with the presented materials. This encouragement often takes the form of 'warm-up' session before reading begins; at the end of this activity, most of the learners can connect with the text.(ibid).I

## 2.3. Reading Problems Related to Material Selection

There are different definitions of authentic materials, but they do have something in common. All the definitions highlight the fact that authentic materials imply "*Exposure to real language and its use in its own community*" (Widdowson, 1990).Sandeson (1991) claims that "*Authentic materials are materials that we use in the classroom and that have not been changed in any way for ESL student.*" That is to say, even though bringing authentic materials into the

classroom can be motivating for learners because it brings a real life element to the learning process. Many students fail to deal with this kind of materials simply because authentic materials may be too culturally biased; thus, learners cannot easily understand it. In addition, authentic text contains too many complex structures so students, who have a low level, have a hard time decoding the text. According to the finding of the survey carried out by Chavez (1998), learners enjoy dealing with authentic materials since they enable them to interact with the real language and its use. In addition, they do not consider authentic situations or materials innately difficult. However, learners view that they need pedagogical support, especially when reading literary texts. Hence, students actually feel better with authentic texts helping them get involved in the reading language. As teachers provide educational support to their students, authentic materials should be used according to their level of knowledge

### **3.Types of Reading Strategies Used in ESP**

According to Grabe (2009), Reading strategies are defined as deliberate procedures and conscious plans used by readers to achieve a goal and solve problems of comprehension. It shows the way readers have designed a task that can give rise to textual clues, and how they make sense of what they read and what mental processes are involved in understanding.

In this type of reading, ESP learners have different topics for their reading purposes. Reading strategies are mental actions used by the readers to facilitate their reading process. First,improve reading comprehension and then to overcome reading difficulties. Learners frequently use a set of strategies such as skimming, scanning, inferring and predicting while reading. Thus, they can easily process and extract information from the text.

### 3.1. Skimming

Grellet (1981:4) defines skimming as "*a quick running of one's eyes over a text to get the best of it*". It is the movement of the reader's eyes on the print to understand the essential and the intention of the writer. Thus, skimming is the act of looking at the surface of the documents to be read. Harmer (2001) suggests that one of the strategies that readers adopt to read a particular text is to quickly examine the content of the reading. Skimming is known as the movement of the eyes of readers on the text quickly to get the general idea that is printed in order to understand the essential and the intent of the author.

### 3.2. Scanning

Scanning is a strategy that allows the reader to look attentively at the text to find out specific information. Greenall and Swan (1986:19) state, "*It is not necessary to read the whole of a text, especially if one is looking for information which is needed for specific purposes.*" In this strategy, the readers already know the content of the text but he/she is looking for a particular piece of information and neglects any information that does not serve his/her purpose of reading. Grellet (1981) states that "*scanning is a regarding technique that requires the reader to search for specific information without reading the whole text looking at its title, table of content and so on .*" In other words, determine a specific information and often we do not even follow the linearity of the passage. Otherwise, in scanning strategy, it is indeed to read for specific details without paying attention to the remaining ideas.

### 3.3. Inference

Inference is a very important and useful strategy for reading comprehension. It permits the reader to retrieve the intended information by using what is mentioned in the text such as syntax, logical and cultural clues (Grellet, 1981). Inferring is a skill that is necessary for reading

comprehension; it refers to the reading between lines and what does it occur when the reader depends on his/her prior knowledge. According to Kristin et al., (2009) inference helps readers to comprehend texts, yet it requires an active interaction with words in a sentence, and among sentences themselves.

### **3.4. Prediction**

Prediction is seen as a sub-skill of skimming. According to Grellet (1981), prediction is the learners guessing of what the text is about, or what comes next. Readers can predict and understand the holistic meaning at the first glance at the beginning of a given sentence, with the use of previous or prior knowledge. In fact, predicting facilitates the readers' distinction between what is new and what is already seen (Creenall and Swan 1986) In other words, this skill allows the readers to recall what they have as a previous knowledge about the text and what they would like to learn, especially in ESP. For example, the reader can preview a text by reading the title or any headings or even looking at an illustration or graphs; from this, he/she predicts some ideas and information that he/she expects to find in the text.

### **3.5. Guessing Word Meaning**

Unfamiliar or new words are the obstacles which encountered by students, especially ESP ones in breaking down their reading comprehension. Guessing meaning refers to the plans and procedures that readers use to guess the contextual meaning of words, during their reading for the main purpose of comprehension. Smith (1971) believes that the best way to identify unfamiliar words in texts is to draw inferences from the rest of the text rather than looking it up in a dictionary. Readers always seeks to understand the meaning of these words using techniques such as using dictionaries, guessing the meaning from the context or use translation. These techniques help the readers to comprehend words then interpret the textual information.

### **3.6. Previewing**

This strategy allows students to determine the general topic of the reading, relevant vocabulary (though not necessary for advanced learners), (Grabe and Stoller, 2001) claim that The previewing activity includes reading the title, the heading, and subheading; examining visual aids such as maps, graphics, illustrations and italicized words. It also requires a quick reading of any introductory and concluding paragraphs by which the readers make a kind of general survey about the materials in hand.

## **4. The Theoretical Framework: Schema Theory**

### **4.1. Definition of Schema**

Schema theory is theory that was introduced by Bartlett in 1932. In comprehending a language, people activate relevant schemata allowing them to process and interpret new experiences quickly and efficiently. Rumelhart (1980) defines schema theory as an explanation of how readers use prior knowledge to comprehend and learn from a text. Carrel stresses on the fact that any text does not carry meaning by itself, which means that another element comes into play shows us to allow the reader to make sure of text (Carrel and Eisterhold, 1983). This element is referred to as the previously acquired knowledge or the reader's background knowledge.

According to schema theory, making sense of a text is an interactive process between the reader's prior knowledge and the text (ibid). In other words, the reader does not find the meaning of the text only in the sentences themselves, but he/she derives it from the previous knowledge stored in his/ her mind and the process through which the reader tackles it (Cook, 2008). This means that readers make use of the sentences and their prior knowledge to comprehend the topic of the text.

Schema theory is used to predict our interpretation of the text. Through this objective, we see that meaning-making and comprehension processes are resulted from the interaction between this knowledge in the text. It is asserted that the reader's background knowledge of the text's topic and context affect his/her reading process and comprehension. According to cognitive scientists, schema theory relates to "building blocks of cognition" (Rumelhart, 1980 in Kucer, S. 2005).

Thus, schema is, according to Ajideh (2003:4), "*a hypothetical mental for representing genetic concepts stored in the memory*". These mental structures are important in students' academic reading because they serve as the background which activates their knowledge in the concepts taught in various content subjects. Students then are able to expect or to predict aspects in their reading relating to the subject matter. Schema, therefore, serves the purpose of activating the knowledge structured that is stored in the memory. Background knowledge is complex structures of information that represent the individual's past encounter with the world. They contain his/ her knowledge of objects, situation and events as well as "knowledge of processes, such as reading, washing clothes, or home buying (kucer, 2005)

Adding to the view expressed by Ajideh (2003), Bartlett (cited in Carrel et al., 1988: 39) describes schemata as an active organization, a past reaction, or experiences which are activated through the reading process. There is, therefore, an interaction between thought and language.

## **4.2. Types of Schemata**

### **4.2.1. Formal Schemata**

Formal schema refers to "*background knowledge of the formal, rhetorical organization structures of different types of text*" (Carrell and Eisterhold, 1983:71). In other words, formal schema refers to the knowledge of how different genres are presented. In addition, a formal

schema can sometimes refer to the study of "*reading*" and "*listening*" which reflects to the previous experience of a type of text or genre such as reading a scientific article (Hussein and Tavakoli, 2012). Otherwise, students should not only be familiar with text structures, but also with the structural organization of different scientific texts (Hedge and Ferris, 2009). That is, the student should be familiar with the language in scientific texts in order to read and understand these texts.

#### **4.2.2. Content Schemata**

According to Carrel (1983) Content schema refers, to the "*background knowledge of the content area of the text*". This involves knowledge or information about what is happening in a given topic, and how these events relate each other to form a coherent whole. This is the scope of the text's content and its theme, including some general knowledge. The content schema determines how well students can understand the text. Sometimes it can also help students to break their vocabulary limit.

#### **4.2.3. Linguistic Schemata**

Language schema is the transcendent knowledge of the linguistic rules of a particular language. It contains the background of the vocabulary, grammar, phonetic rules and so on. Without certain relevant language schema, the readers can hardly identify specific information in a text or take advantages of the information to activate the schema existing in the higher level of the mind and thus understanding the text (Carrel and Eisterhold, 1983). That is to say, language schema plays a great role in reading comprehension. It is the basis of reading and the preliminary of formal and content schemata.

**Conclusion**

This chapter has reviewed the main theoretical points relating to the main concepts of our research. First, it introduces the reading skills in ESP and the main elements related to it. Then we have introduced the different problems faced by students in reading ESP texts and strategies that they use to overcome these difficulties, ended with the theoretical framework which refers to schema theory and its types.



***Research Design***

**Introduction**

The present chapter is devoted to methodology. It highlights the techniques used to answer the research questions put forward in the general introduction. It also provides a description of the context of the study. This chapter is divided into two sections. The first one deals with the data collection tools, which consists of a questionnaire designed to the students of the Department of Electronics at the Institute of Boumerdes. It also includes an interview conducted with the teachers of that department. The second section deals with the data analysis method; it explains that the close-ended questions are analyzed relying on a statistical method which represents the rule of three. Concerning the open-ended questions of the questionnaire and the interview, Qualitative Content Analysis are used to analyze the gathered data.

**I. Context of the Study**

The present research is held in a concrete context. That is to say, in the Institute of Electrical and Electronic Engineering in Boumerdes that includes English for Specific Purpose (ESP) in the programs of study. This investigation seeks to explore students' difficulties that they encounter in their ESP reading and the strategies that they are using to overcome these difficulties.

**I.1. The Participants**

The participants included in the present research involve (07) teachers of the Electronics department, who responded to the questions designed in the interview, and sixty (60) students are selected according to the random sampling method to answer the questionnaire. Thus, the results gained from this latter research tool, represent all the first year students' of the Electronics Department of IEEE of Boumerdes.

## I.2. Procedures of Data Collection

In order to explain more the use of reading strategies in comprehending an ESP context, in the purpose of solving the reading problems encountered by ESP students, a questionnaire has been designed to first year Electronics students at the IEEE of Boumerdes and an interview conducted with their teachers' in the same institute.

### I.2.1. The Questionnaire

A questionnaire is one of the instruments that we have used in collecting data. This research technique allows the researcher to collect a large amount of data within a short period of time. Wilson and Me lean (cited in Cohen et al, 2007:317) define the questionnaire as “*a widely used and useful instrument for collecting survey information, providing structured often numerical data being able to be administered without the presence of the research and often being comparatively straight forward to analyze*”. The questionnaire of this research is distributed to the students of the Electronic Department. The students are informed that their answers will be anonymous in order to get effective responses. So, the questionnaire consists of both closed-ended questions where the students are expected to choose one of the responses suggested and the open-ended questions where the participants are required to provide personal answers.

Our questionnaire is comprised of 25 questions. It is divided into three sections. The first section is concerned with the students' reading comprehension with (06) questions. The second one is about the reading comprehension problems faced by ESP readers in which (10) items are asked, and the last one contains (09) items and it deals with the reading strategies used in ESP.

For the reliability of the questionnaire, it has been piloted with five students of the Electronics Department at the IEEE at Boumerdes. The questions were clear so we did not revise them.

### **I.2.2. The Interview**

The other instrument that has been used in addition to the questionnaire is the interview, which allowed us to carry more in depth study of our issue. As it asserted by Richards (2001) *“interviews allow for more in depth exploration of issues than is possible with questionnaire, though they take longer to administer and are only feasible for smaller groups”*. This means that the researcher uses the interview and interprets the result that he or she obtains according to his/her objective. The interview that we have conducted in this research study contains 08 items, seven teachers of the Electronics department at Boumerdes institute, on September 2018, are answered the questions. The objective of this instrument is to collect in accurate data for more reliable results.

## **II.1.Procedures of Data Analysis**

The study uses a mixed-method research. The data analysis is based on a quantitative and on qualitative analysis of the findings. The quantitative analysis is based on statistics, and the qualitative analysis interprets the results.

### **II.1.1.Statistical Analysis**

As already stated, both quantitative and qualitative researches have been used to analyze the data. The findings of closed-ended questions deal with statistics and percentages. The rule of three has been used to turn the obtained results into percentages. This statistical method is calculated by the following application  $X = \frac{Z \times 100}{Y}$  in which X refers to the number of percentages.

Z refers to the number of the answers and Y refers to the sampled population. Then, the outcomes are shown in form of tables, charts, diagrams.

### **II.1.2. Qualitative Content Analysis**

It is a procedure of interpreting and analyzing qualitative data gathered from both the questionnaire and the interview. Hsieh and Shannon (2005:1278) define QCA as “*a research method for subjective interpretation of the content of the text data through systematic classification process of coding and identifying themes or patterns.*” That is to say, it transforms the gathered data into forms of explanation, analyzing, understanding the gathered information and then it involves the categorization process and put the data into themes and topics. The QCA serves to analyze all the information gathered.

### **Conclusion**

This chapter has clarified the methodological tools used in this investigation. First, we have used two data collection tools including the questionnaire and the interview. In this investigation, the mixed-method approach is adopted in order to analyze the gathered data. Creswell (1999) affirms that both collecting and analyzing quantitative and qualitative data is the most suitable methods to conduct a given research. In this research, the statistical method (rule of three) is used to calculate the percentages gathered from the questionnaire. After that, the qualitative method is used to analyze both the open-ended questions of the questionnaire and the interview. In the next chapter, the obtained results will yield valuable insights about the reading difficulties that the ESP students encounter and the strategies that are using to overcome these difficulties will be discussed.



***Presentation of the  
Findings***

## Introduction

This chapter aims at presenting the results gathered from the research tools, to reveal the reading difficulties that the students encounter to comprehend an ESP text, and the strategies that they are using to overcome these difficulties. The results of the questionnaire are presented in percentages, which are described by using tables, pie charts and histograms. Since the work is based on two different research tools, this chapter is divided into two main sections. The first section is devoted to the results of the questionnaire addressed to the students. The second one deals with the outcomes of the interview conducted with teachers.

### 3.1. Presentation of the Results of the Questionnaire

#### 3.1.1 The Results of SectionOne: Reading Comprehension

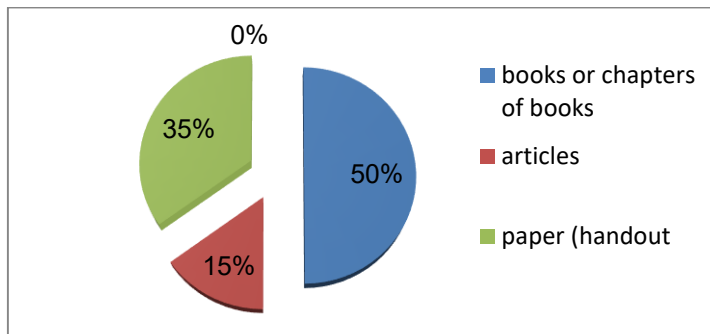
**Q: 1.** Do you read in English?

Option	Participants	Percentages
Yes	60	100%
No	00	00%
Total	60	100%

**Table1: Students' Reading in English**

As the students are asked about reading in English, the table show; to us that all the respondents 100% answer positively, which means that they read in English.

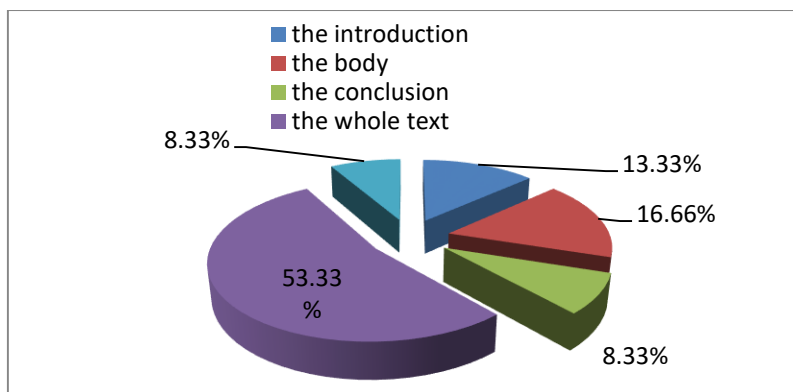
**Q: 2.** what do you read in your academic studies?



**Diagram1: Types of Reading Materials**

The diagram above shows that the answer of the respondents varied between those who read papers and article, but the majority of them, which represent 50%, read books and chapters of books.

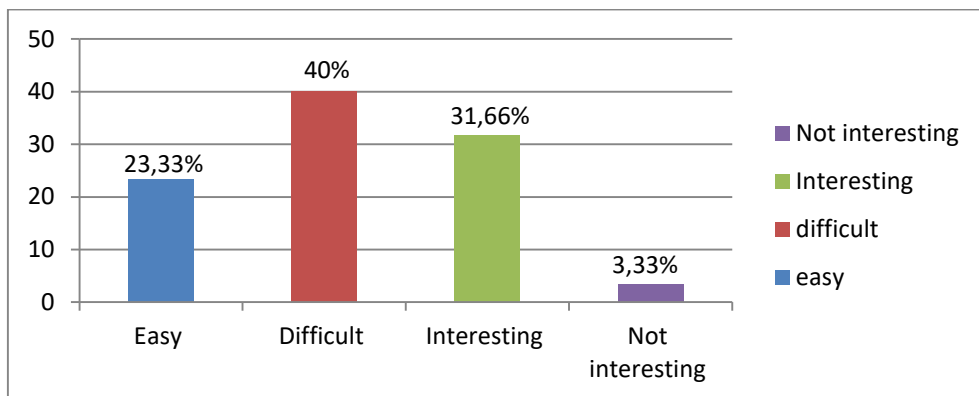
**Q: 3.** what do you exactly read in an article, books, and chapter in books...?



**Diagram 2: The Reading Parts in a Text**

From the gathered data, 53.33% of the participants answered that they read the whole text whereas 16.66% of them read only the body. Besides, reading the conclusion, the introduction and the conclusion are almost equally read by the students.

**Q: 4**How do you find reading in English?



**Daigram3: Easiness / Difficulty of Reading in English**

As indicated in the diagram above, 31.66% of the whole participants find reading in English *interesting*, whereas 40% of the participants find it *difficult*.

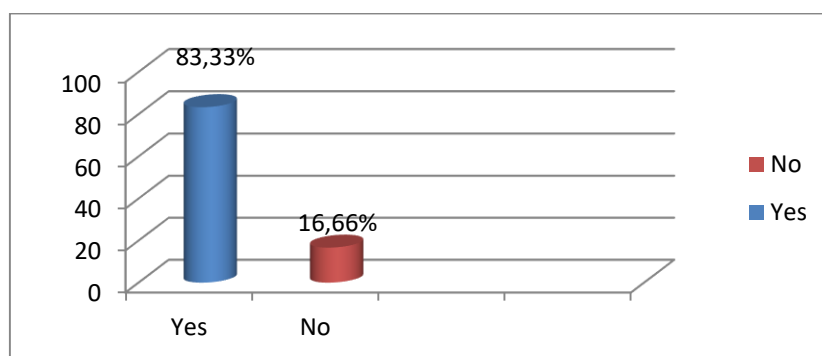
**Q: 5**Do you make extra reading outside your teacher's assignment?

Option	Participants	Percentages
Yes		53%
No		47%
Total	60	100%

**Table 2: Extra Reading Outside the Teacher's Assignment**

From the gathered data, it can be seen that 53.33% of the respondents do the reading activity outside the teacher's assignment, while 47% of them they do not practice reading outside the teacher assignment.

**Q: 6.** Do you read academic texts for the purpose of comprehending them?



**Diagram 4: Reading Academic Texts for Comprehension**

It is highlighted that the majority of the respondents that represent 83.33% read academic texts for the purpose of comprehending, while the 16.66% of them do not read these text for the purpose of comprehension.

**If no, why do you read them, then?**

The students, who answered *no* to this question, justify that they read academic text because they are obliged to do their homework. Others claim that they read for pleasure and also for the purpose of enriching their vocabulary.

### **The Results of Section Two: Reading Comprehension Problems Faced by ESP students**

**Q: 7** How do you read in English?

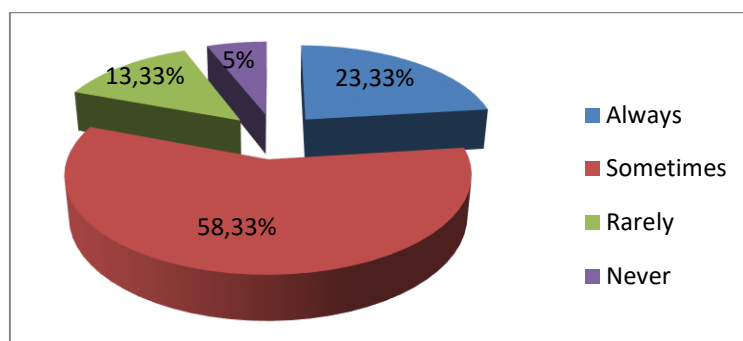
Option	Participants	Percentages
Fluently	22	36.66%
With little difficulties	24	40%
with some difficulties	10	16.66%
With many difficulties	04	06.66%
TOTAL	60	100%

**Table 3: Students' Reading Ability**

The table shows that the students' ways of reading differ. So, 40% of the respondents' state that they read with little difficulties, 36% read fluently, and 10.66% of those students claim

that they read with some difficulties. The remaining percentage (6.66%) of the respondents reveal that they read with many difficulties.

**Q. 8.** How often do you find problems with unfamiliar vocabulary in the ESP text?



**Diagram 5: Vocabulary Problems Encountered by ESP students**

The results above indicate that the majority of students (58.33%) *sometimes* find problems with new words in the text. 5% of the participants said that they *never* had problems with new words.

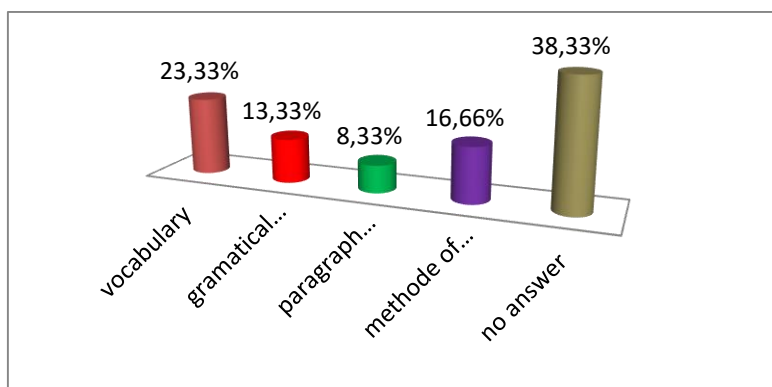
**Q: 9.** Do you have difficulties in understanding the text in your field?

Options	Participants	Perentages
Yes	37	61.66%
No	23	38.33%
Total	60	100%

**Table 4: Difficulties in Understanding Texts**

This question is related to the students' reading abilities in English in their specific field of study. 38.33% of the respondents answered positively, and the 61.66% of them shows that they faced problems when they read in English in their field of study.

**Q. 10.** If the answer is yes, do you think that your problems are due to: Vocabulary, grammatical structure or paragraph organization?



**Diagram 6: Students Areas of Difficulty**

By relating question 10 to the previous one (09) we find that 23% of the respondents think that their problems are due to the lack of vocabulary, and 16.66% of them view that the reading problems are due to the teaching method. Whereas 13.33% of the participants believe that their difficulties have a relation basically on the misunderstanding of the grammatical structure. For the 8.33% of the remaining students, their problem is related to the paragraph organization.

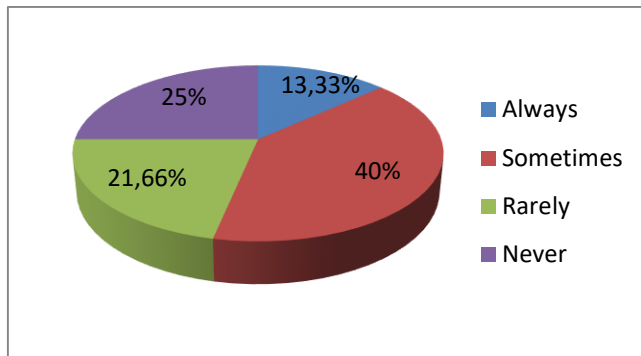
**Q. 11.** You do not comprehend what you read because of the lack of prior knowledge.

Options	Participants	Percentages
Always	16	26.66%
Sometimes	27	45%
Rarely	11	18.33%
Never	6	10%
Total	60	100%

**Table 5: Lack of Prior Knowledge**

The table above demonstrates that the majority of the participants (45%) *sometimes* do not comprehend what they read because of lack of prior knowledge whereas the minority of them (10%) never has problems with comprehension.

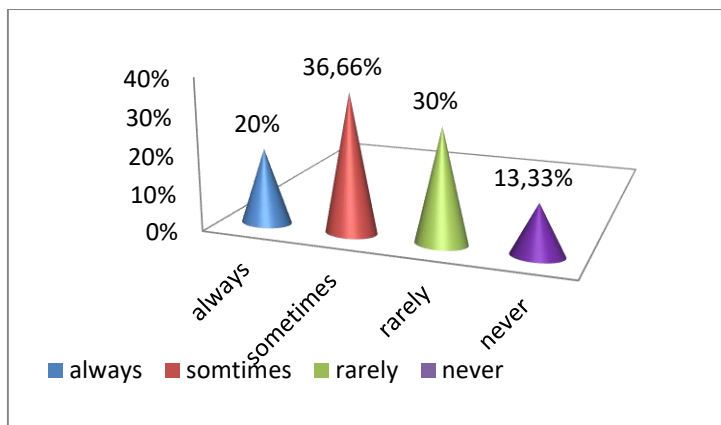
**Q. 12.** When you find a text difficult to understand do you give up reading?



**Diagram 7: Giving up Reading when encountering difficulties**

The pie chart above indicates that 40% of the participants *sometimes* give up reading when they find difficulties in understanding a text while 25% of them *never* give up their reading

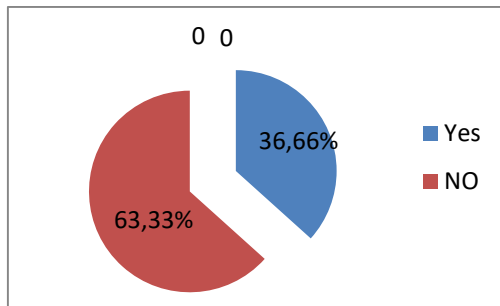
**Q. 13.** How long do you take time to finish reading?



**Diagram 8: Reading Rate**

From the gathered data, it can be seen that most participants *sometimes* take time to finish reading. And 20% of them *always* use much time. However, 13.33% of the students *never* spend much time to finish reading.

**Q: 14.** To overcome your reading difficulties, do you make use of some reading strategies (skimming, scanning, prediction...etc)?



**Diagram 9: The Use of Strategies to Overcome Difficulties**

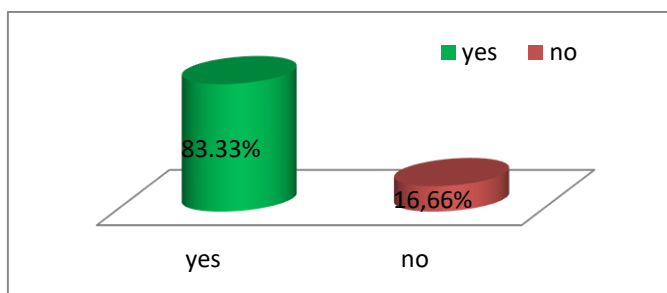
As the pie chart above demonstrates 63.33% of the whole participants answered negatively to this question. that is, they do not use strategies to overcome their difficulties. But 36,66 % use the strategies even they do not knowing them.

**Q: 15**If yes what are the reading strategies do you use?

Most of the students said that before reading a text in their field of study, they first look at the layout (the diagrams, and the graphs of documents). Others replied that they ask their classmates when they find unclear ideas.

### The results of Section Three: Reading Strategies Used by ESP Students

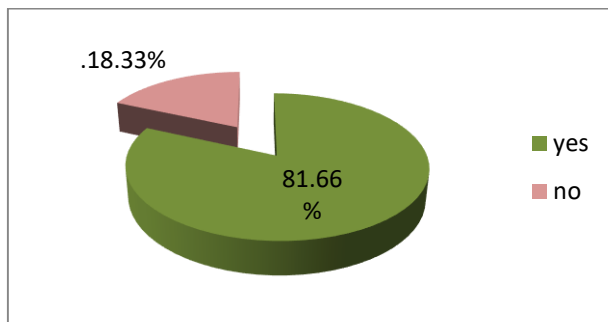
**Q: 16**Before reading a text, do you look at any headings, graphs, drawings...?



**Diagram10: Previewing Strategy**

The result above shows that the majority of the participants preview the text before reading it, by looking at the different heading, graphs, and other illustration, while the minority of the respondents do not use these means.

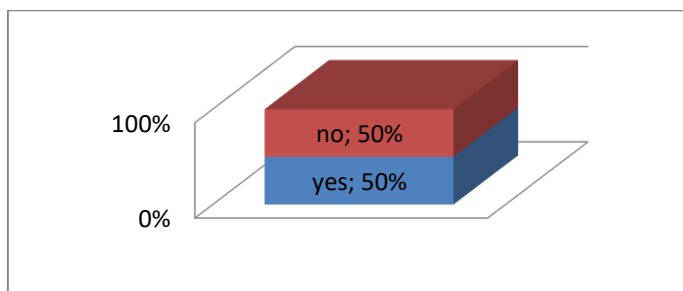
**Q: 17.** Do these heading, graphs... etc activates your background knowledge (depending on the topic) and helps you to predict the content of the ESP text?



**Diagram 11: Background Activation Knowledge and Prediction Pre-reading Strategies**

From the results obtained, it is highlighted that 81.66% of the respondents assert that headings, graphs. Activate their background knowledge and help them to predict the content of the text.

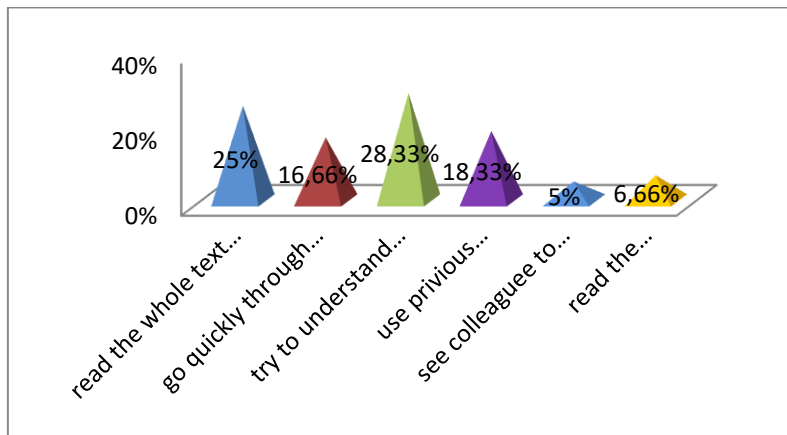
**Q. 18.** Do you re-read a difficult part of an ESP text?



**Diagram 12: Re-Reading a Difficult Part of an ESP Text**

Relying on the results on this question, half of the participants claim that they re-read the part of an ESP text even it is difficult and half of them do not re-read it.

**Q: 19.** While reading, which of the following ways do you adopt in order to get information?



**Diagram 13: Reading Procedures**

Diagram (15) reveals that 28.33% of the participants follow the way in which they try to understand the text relying on different illustrations and pictures, whereas 25% of them read the whole text to get a general idea. 18.33% of the respondents assert that they use previous knowledge having relation with the text. The remaining responses are varied between scanning the text, reading the introduction and the conclusion of the text, and seeing classmates to search for information.

**Q. 20.** You skim the ESP text first, and later you read the details.

Option	participants	Percentages
Always	21	35%
Sometimes	23	38.33%
Rarely	13	21.66%
Never	3	5%
TOTAL	60	100%

**Table 06: Skimming and Scanning Strategies**

The table demonstrates that 38.33% of the respondents *sometimes* skim the ESP text and later read the details, while 5% of them never do it.

**Q: 21.** Can you infer an author's message while reading an ESP text?

Option	Participants	Percentages
Yes	35	58.33%
No	25	41.66%
TOTAL	60	100%

**Table 7: Inferring an Author's Message**

The results above show 58.33% of the respondents assert that they are able to infer the implicit meaning of the text, while 41.66% of them are not able to infer the author's message.

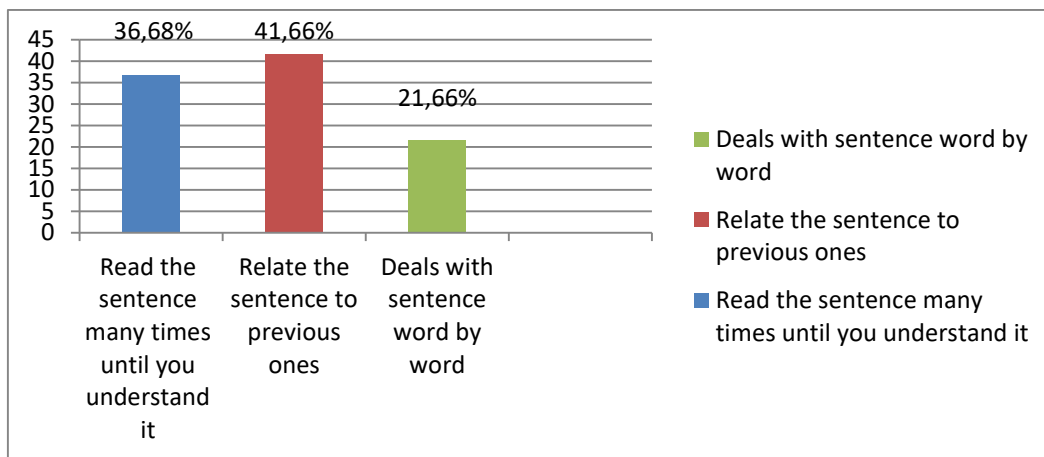
**Q. 22.** Do you skip unknown word that you could not clarify if you understand the gist?

Option	Participants	Percentages
Always	21	35%
Sometimes	27	45%
Rarely	7	11.66%
Never	5	8.33%
TOTAL	60	100%

**Table 8: Skipping Unknown Words**

As it is shown in the diagram, 45% of the participants *sometimes* skip unknown words that they couldn't clarify; whereas this question reveals that there is only 8.33% of the respondents who *never* skip the unknown words.

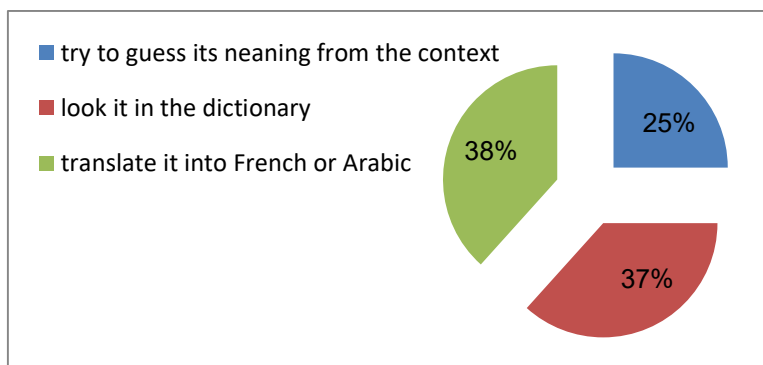
**Q. 23.** Which of the following ways do you adopt in order to get the meaning of a sentence?



**Diagram 14: Reading Ways**

This diagram shows that the majority of the participants, which is 41.66% , opted for relating the sentence to previous one in their way of getting the meaning of sentence while 21,66% dealt with the sentence word by word.

**Q. 24.** To get the meaning of words, which of the following ways do you adopt?



**Diagram 15: Strategies for Word Meaning**

Concerning the results obtained from the question above, we notice that students equally use translation and dictionaries, while the remaining students (25%) follow the way of guessing word meaning from the context.

### **3.2. The Presentation of the Results of the Interview**

This section deals with the presentation of the obtained data from the interview conducted with the teachers of the Department of Electronics. The teachers answered the questions of the interview in written form. These results are achieved through using the Qualitative Content Analysis (QCA). This analysis aims at finding out whether teachers use techniques and materials in their teaching practices.

#### **3. 2. 1. Do you teach English for specific purpose?**

This question is intended to know whether the informants have taught ESP or not and the results show that the majority of them did.

#### **3. 2. 2. Do you think that your learners are interested in English course?**

The current question seeks to have information about the teachers own view on learners' interest in English course. The results of the analysis revealed that half of the respondents claimed they think that learners are interested in the English courses, and if they do not, they have to be interested because all technical courses are taught. Others claimed that there is only a minority of students who are really interested in English, while the remaining of them are interested in pragmatic reason because the teaching is done in English.

#### **3. 2. 3. Do you focus in your teaching on the reading skills?**

The results obtained from this question are that most of the respondents focus on the reading skill in their teaching except one teacher.

#### **3. 2. 4. What comprehension strategies do you use in teaching the reading skill?**

The participants' answers to this question are variant. There are those who said that they always activate prior knowledge and experiences about any given topic and use tables, figures or

pictures in text to increase students' understanding. Others claimed that they focus on skimming and scanning or making inference, while the remaining informants stated that they ask students to guess the meaning of unknown words or phrases, or look up in a dictionary.

### **3. 2. 5. Do you select your own materials?**

All of the respondents affirm that they select their own materials when teaching.

### **3. 2. 6. Which materials do you use to adopt these strategies in teaching reading?**

Concerning this question, the teachers say that the materials used are varied including dictionaries, written scripts, textbooks, scientific and non-scientific articles, and handouts, PCs with data show, technical magazines and journals as well as web sites.

### **3. 2. 7. According to you, what kind of difficulties students face when they read?**

After analysis, teachers expose a list of problems. They argue that students have the difficulty of comprehension, and they do not master the language enough. Besides, they affirm that students have a deficiency of the technical vocabulary as well as the different connotations of certain words in English.

### **3. 2. 8. What do you suggest overcoming these difficulties?**

The teachers suggest a set of solutions concerning this question. Some of them believe that teachers have to advise students to do extensive reading and never be afraid to guess the meaning of words. What is important for them is to try to get the general meaning and not to understand every single word. Two other teachers say that if students want to overcome their reading problems, they have to read a lot and use context clue to value meaning. However, one suggests teaching technical course (mathematics and physics) in English from High school or even from primary school.

**Conclusion**

This chapter has presented the results of students' questionnaire and teachers' interview designed for first year Electronics students and teachers at the IEEE of Boumerdes. The following chapter is devoted to the interpretation and discussion of the findings.



***Discussion of the Findings***

## **Introduction**

The present chapter is devoted to the discussion of the findings presented in the previous chapter. The findings stem from the results of the questionnaire administered to the first year Electronic students of the IEEE of Boumerdes. Moreover, the results of the interview administered to the teachers of the same institute. The chapter also answers the questions asked in the “General Introduction” which are the following:

- What problems do Electronics students encounter when reading a text in their field?
- What are the reading strategies used by the students to overcome their reading difficulties?

The chapter comprises two major parts in which we answer to the research questions suggested in the general introduction.

## **4.1. Discussion of the Results of the Questionnaire**

### **4.1.1. Students Reading Comprehension**

From analyzing students’ responses concerning their reading skill in English, it is apparent from the first glance that all students read in English since they are in the ESP field. This answer confirms that English is necessary for them, and it is a means by which the students get access to the information they acquire in their specific field of study. In fact, students’ willingness to read more shows the important role which reading skill occupies comparing to others skills. This idea goes with Rivers’ (1981: 147) statement that “*reading is the most important activity in any language class, not only as a source of information and pleasurable activity but also a means of consolidating and extending one’s which are knowledge of the language*”.

From the analysis of question two, which is related to the types of materials that students read, diagram (1) demonstrates that 50% of the students read books and chapters of books rather than articles and handouts. In fact, the students' preference for reading books is probably due to the opportunity given by their institute (IEEE) through providing them with diverse books in order to have information about their needs. As a result, this environment helps the students to get easily more information to promote their studies. Connecting this question to the next one, we see that students read the whole text that comes between their hands, whether books, chapters of books or articles. Since those students, who are in first year, need to search for deep details in order to understand and get more knowledge about their ESP field.

The results of the fourth question, dealing with the student's easiness and difficulties of reading in English, shows that 31.33%, of the respondents, find reading in English interesting because they are in an ESP field. Then, 40% of the participants find reading in English difficult. This difficulty is probably due to their insufficient acquired package in the Secondary School where they generally deal with grammar, pronunciation and so on. While in their first year at the IEEE are expected to be aware of the importance of the English language.

Concerning question 05, first year students' experienced a great change in their path of study from secondary school to university, where they found another environment which is completely different. Table 2 exposes the different responses about the use of extra reading outside the teachers' assignment. This means that students are obliged to deal with extensive reading which gives them the opportunity to progress their reading ability and become more independent in their studies.

In the institute, English represents the medium of instruction and communication, and students are required to read in English, so there is a need for reading comprehension in English for specific purposes (ESP). Thus, the majority of students read their texts for the purpose of

understanding (see diagram 5), which represents the major aim of the readers to extract the information in order to fulfill many goals and perform many tasks such as writing a comment or evaluating the text. As Grellet (1981) explain that, reading comprehension means understanding a given text and being able to extract the required information from it as efficiently as possible. But 16.66% of these students are not aware of the importance of reading comprehension; they read these texts for different other purposes, either to enrich their vocabulary or for pleasure. In this context, Alderson (2000:28) argues that reading is seen as “...*an enjoyable, intense, private activity, from which much pleasure can be derived, and in which one can become totally absorbed*”.

#### **4. 1. 2. Students’ Reading Comprehension Problems Faced in ESP Texts**

Taking into account the results obtained from the students’ answers concerning the reading comprehension problems, it is apparent from the first glance that students are seen to be aware of the problems they are facing in comprehending ESP texts, and the necessity of transcending their reading difficulties to improve their reading comprehension in ESP. By analyzing of the first question which related to the reading ability, by joining the three suggested answers that linked the degree of difficulties , it was revealed that more than half of the respondents (63.32%) read English text with difficulties (see table 3). This means that the majority of first year students have an interest in reading ESP texts because they help them to improve their reading.

After the analysis of the results of questions (8 and 9), and gathering the answer’s choices dealing with vocabulary problems and difficulties in understanding a text, it is revealed that high percentage (82%) of students find problems with unfamiliar vocabulary. Besides, (61.66%) of them asserted that they have problems in understanding the ESP text because of the technical words which are unfamiliar. That is to say, first year Electronics students are facing terminology and vocabulary problems. For this reason, it is not easy to understand a text if the

students have no information about the context. In other words, a student who cannot understand the meaning of an idea means that their knowledge is limited.

In addition to the difficulties in comprehending texts, diagram (6) demonstrates that the majority of the respondents have a limited vocabulary and this prevents them from communicating successfully with the text. This result is, probably, due to the use of inappropriate authentic materials, that vocabulary may not be relevant to the immediate needs of students. A research has shown that vocabulary knowledge contributes to students' ability to understand a text (Harmer, 2000). The results obtained in our study also include another problem that, according to the students, is the cause of their misunderstanding. As shown in (diagram 7), 13.33% of respondents out of the whole population, who answered that they have problems in understanding an ESP text, think that their problem is due to grammatical structures. They believe that relevant language schema (grammar rules) helps them to identify the specific information of a text. It is proved by studies that students must have adequate vocabulary, grammar and syntax to interpret the written message effectively.

Another result displayed in question 11 affirms that almost half of the participants (45%) found that their miscomprehension is due to the lack of prior knowledge; however, only 10% have this knowledge and use it as a tool to understand the topic of the text they re-reading. That is to say, by activating the students' background knowledge before, during and after reading, the misconceptions will be clarified to understand a text.

As indicated in the previous chapter, the findings gathered from the questions 11, 12, 13, show the weakness of the students, which refers to the lack of prior knowledge. This deficiency has led the students to several effects; first, the results proclaim that they consume much time when they read (diagram8). Besides, they have a large number of reading materials and must be able to capture key ideas, theories and key themes of authentic materials requiring special

preparation, as well as the complex structures that students find in an authentic text of the causes that led the learner spend much time for reading.

Concerning the results of the final question in section two, the majority of the whole respondents affirm that they do not use any techniques to solve their problems of reading. The findings reveal that, there is only 36.66% of the whole population who employ such techniques (skimming, scanning inference...) to make their reading effective.

Through the students' responses those who answered negatively, it was disclosed that those students make use of techniques or strategies as they said, but it is not sufficient for them to get their reading difficulties under control. Consequently, comparing these results with the previous ones discussed above, we can deduce that students use different strategies to solve their problems, but not all the students are aware of them even they use it. The students do not know that they are the techniques used to avoid the problems of reading comprehension.

#### **4. 1. 3. The Use of Reading Strategies in ESP**

The results gathered from in the 16th question, which are concerned with students' previewing pre-reading strategy, report that most of the first year students are aware of the use and significance of this strategy, which enables them to get a sense of what the text is about by looking to the title, graphs, headings or other drawings which activate the background knowledge of the readers. Nunan (1995:66) asserts that "*the fundamental assumption is that we can only interpret visual information and words by relating this prior knowledge and information*". We noticed that the result obtained from diagram (11), which refers to the activating background knowledge and prediction to pre-reading strategy reveals that the majority of the respondents answers positively that these different graphs, headings, drawings let the reader to predict some ideas and information that they expect to find in the text. Magiliano, et al. (1993) stated that "*prediction strategy involves thinking about what might be coming next in the*

*text. It is applied by effective reader; they used pictures, headings, and text as well as personal experience to make predictions before they begin to read".* This skill helps the ESP students to think about what will happen in the text according to their prior knowledge.

The findings of question number 18 which deal with the re-reading strategy; shows that re-reading strategy is sometimes necessary during reading a text because it helps students to emphasize relevant information; thus, this strategy may serve as a valuable link between the text and the background knowledge which will encourage thinking more carefully about the topic. Hence this practice (re-reading) promotes reading for the general sense rather than for the meaning of each word.

The results found in diagram (13) deal with reading procedures. It is revealed that students get information for understanding the written text through different ways. Comprehensions require a great deal of cognition capacity. For example, good readers acknowledge that comprehension occurs from reading activities such as relating what is being read to prior knowledge, predicting what might be coming next in the text, and summarizing what is being read. The most of the participants try to understand the text relating it to the visual information offered by headings, graphs and pictures which let the readers predict what the text is about, and also by using their background knowledge having relation to the text. However, 25% of the respondents read the whole text to get a general idea. And 16.66% of them go quickly through the text to get specific information needed. Here the ESP students are prepared to study specialized subjects with an aim to decode the text for their purposes which are related to their field of study.

Question number 20 reveals that the great majority of the participants are aware about the use of skimming strategy, which helps the students to read more actively and to find the general idea or the main idea of each paragraph while reading their texts. Otherwise, this technique helps

students to connect their background knowledge about the subject to what is in the text, and helping the students to learn in advance what the main focus of the reading passage will be and building comprehension. Harmer (2001) reports that one of the strategies that the readers adopt to read a particular text is to look quickly throughout the reading material. This skill is known as skimming. It is the movement of the readers' eye over the text quickly to get the general idea of that print. which means that skimming technique requires readers to read by paying attention to the key words in order to overview the general idea.

From the results obtained from table (07), we notice that most students' answers (58.33%) show that they are able to infer an author's message while reading an ESP text. This is probably due to the process of comprehension, extracting meaning through interaction and involvement with the written text, vocabulary development and understanding text meaning. This give student an ability to make sense of the authors' message. Prezler (2006:04) said that "inferences are evidence -based guesses i.e. in case of reading; students use their prior knowledge to make inferences about the text". Other answers, however, are revealing that students are not really able to draw conclusions like those of the authors. It seems that it is difficult since there are first year Electronics students who are studying in an ESP field. This information is noticed previously in the results obtained from question four (4) that show that the majority of students find reading in English difficult.

Concerning the unfamiliar words meaning that students find when they read as indicated in table (08), most of the students skip unknown words because they are obstacle, which breaks down their comprehension. Despite the fact that it is an obstacle, guessing the meaning of the unfamiliar words has different technique such as translation, looking at dictionaries and gessing meaning from the context that students follow to identify the meaning. As it is shown in diagram (14), students' can guess the meaning from the reading context without any interruption, that is to say they do not stop reading to search for the meaning of the word; Clarke (1980:211) says

that “*to guess the meaning of unfamiliar words from the context in order to save time and continue reading without interruption or referring to a dictionary*””. In addition to that, the use of dictionaries or translation is also available to get the word meaning.

The results presented in diagram (15) depict that students are aware of the different steps that are used to get meaning of sentences, which has relation with the previous one or give themselves the opportunity to understand the idea by re-reading the sentence many times which gives them time to think more about the context. However, dealing with the sentence word by word is not always appropriate because the isolated words do not have the same meaning compared to their use in the context of the text.

#### **4.2. Discussion of the Results of the Teachers’ Interview**

The second part of this chapter consists of discussing the results gathered from the teachers’ interview, which contains (8) questions. It is used as a second tool that helps us to gather sufficient data. Based on the results presented in the previous chapter, the first question of the teachers’ interview reveals that the majority of teachers are specialized in ESP. However, one of them thinks that he is not an ESP teacher since he is teaching mathematics.

Another result reached in our study is concerned with the students’ attitudes toward reading English for Specific Purposes. Students show their interest toward the ESP courses only if they are aiming at attaining certain objectives. In this aspect, Stern (1983) distinguishes four types of objectives: Proficiency, knowledge, effective, and transfer. That is to say mastering the four language skills including reading, the latter which is one of those objectives, beside the development of positive feeling, and then the ability to generalize from what has been learnt in one situation to other. In order to achieve ESP course objectives teachers should decide which methods and strategies to be adopted.

Additionally, this part consists on the reading skills and strategies. These questions: To what extent the teachers of IEEE focus on the reading skill, and what are the strategies used in teaching this skill? Answer in one way the questions 3&4. According to the results found before, the majority of teachers focus on the reading skill. Therefore, teaching such skill is followed by using some technique to achieve the aims of reading. The results obtained from question 4 present several responses. It shows, first, teachers dealt with the strategy of activating prior knowledge and experience. They believe that the students who activate their prior knowledge can extract and construct meaning from the text. In this respects, some linguists say that "*what the reader brings to a text he is more than what he gain from it*". It means that reading is cooperative between the writers decodes and the reader decodes. In other ways, the reader makes a link between the information he knows and the one he finds in a text. Second, teachers believe on the prediction strategy where they use tables, figures or pictures in a text to increase the students understanding. It was proved by Harmer (2001:322) argues that such techniques or forms of assessment test the reading ability of the readers and lead to achieve the effectiveness teaching and testing purposes. In short, we can say that students transfer information into tables, figures or pictures from a global understanding of a text, and that is to test both skimming and scanning skills, which is the third technique used by teachers in their teaching.

The following results indicate teachers' selection materials (question 5&6). They illustrates that the appropriate materials and will be the most important element in reading, and these materials should be varied to equip ESP students with the language and skills they need in order to follow their academic courses of English and make them beneficial.

According to the results reported in this study, and as it is stated in the responses for question 7, students face several difficulties in their reading comprehension. The responses confirm the result shown before in the students' questionnaire. In order to comprehend a text the reader should be able to comprehend the vocabulary used. Karby(2006:161) mention that

vocabulary knowledge is the element that makes up the process of reading. It is why teachers motivate students to read more and more in order to enrich the vocabulary knowledge and to occur to the point of need.

Therefore, in order to reduce and solve the problems of students' reading comprehension, teachers suggest some resolutions. It is because of the complex nature of technical authentic text that learners face problems of comprehension. This is why teachers suggest to read a lot and to use adequate and appropriate reading materials. In addition, they suggest focusing more on strategies. In this essence, we conclude that strategies are actions employed by readers to facilitate their reading process; first to enhance students' reading comprehension and second to overcome reading difficulties.

From the above discussed results of both students' questionnaire and teachers' interview, we come to provide an answer to our research questions and confirm or disconfirm the hypotheses we put forward at the beginning of this study. In accordance with the collected data and the discussed results we come to answer the first question, by listing the different problems those ESP students encounter when reading text as the lexical, syntactical problems, material selection and prior knowledge. This confirms that first year Electronics students at the IEEE encounter problems when reading texts in their field due to the lack of prior knowledge. From the same obtained results we also give an answer to the second question which concerns the strategies used by the ESP students to overcome their reading difficulties. First year Electronics students use some strategies in order to improve their reading comprehension even they are not aware of those strategies and their effective use. This response leads us to confirm the second hypothesis which states that the use of reading strategies may help first year Electronics students to comprehend ESP texts and overcome their reading difficulties.

**Conclusion**

In conclusion, this chapter has interpreted and discussed the results of the questionnaires and the interview undertaken by the participants of the IEEE of Boumerdes. The results have been analyzed in the light of the review of the literature and the theoretical framework focusing on the Schema theory. The results of the study show the compatibility between the responses of the students' questionnaire and teachers' interview. This confirms that teachers, during the course, use strategies in an indirect way. And students use some strategies to achieve comprehension without being aware of the effective use of those strategies.



***General Conclusion***

### General Conclusion

This study is aimed at investigating students' difficulties in comprehending ESP texts, the case of first year Electronics students' at the Institute of Boumerdes. The investigation aim is to extract the readers' difficulties in comprehending ESP texts, and strategies that those ESP students use to overcome in order to achieve their reading comprehension.

This empirical research was conducted in the light of the theoretical framework based on Schema Theory introduced by Bartlett in 1932 and developed by Richard Anderson in the 1970s. In the research, we have integrated this theory with its different types of schemata, as the research deals with different difficulties that ESP students encounter while reading texts. And some strategies that readers may use to overcome these difficulties.

In order to gather the needed data, two research tools have been adopted. A questionnaire was distributed to sixty (60) students of the Electronics Department at the Institute of Boumerdes, in the aim of identifying students' reading difficulties and what they are using to overcome them. The participants are selected according to the random sampling. Besides, an interview conducted with teachers of the same department, for the aim of identifying their use of techniques and materials in teaching practices (ESP).

To analyze the data gathered, a mixed method approach was selected; the quantitative and qualitative are suitable in the process of data analysis, for the purpose of answering the research questions and confirming or refuting the hypotheses advanced in the General Introduction. Thus, the quantitative data were analyzed by using the rule of three and the qualitative data were interpreted according to the Qualitative Content Analysis.

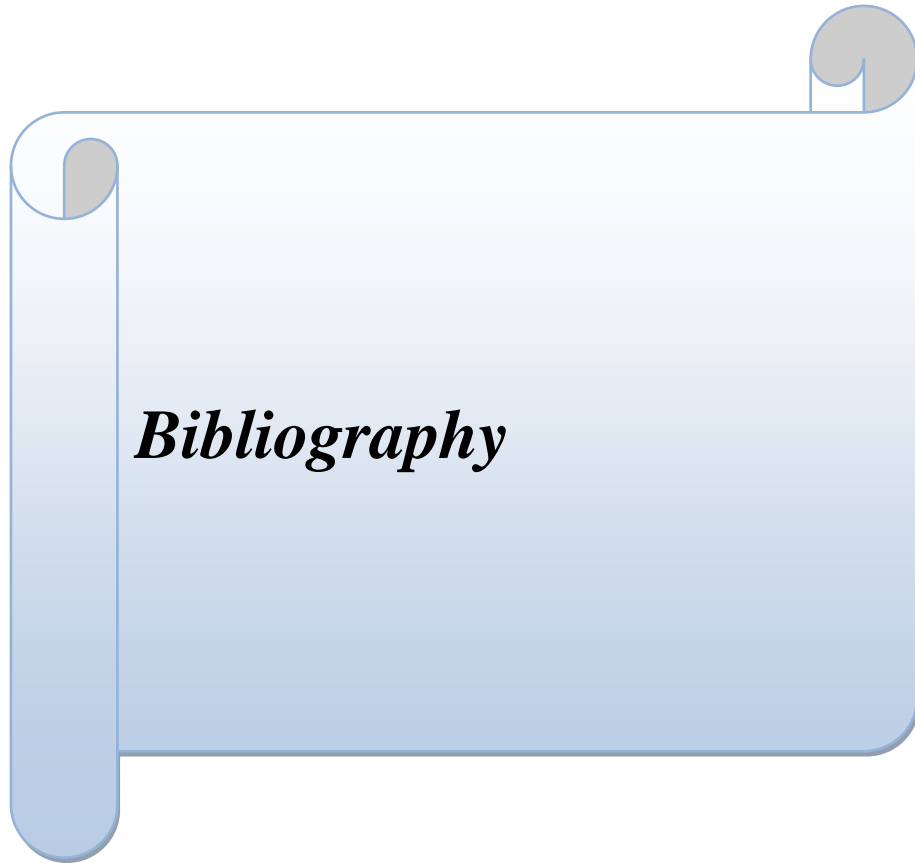
Based on the discussion of the results, quantitative and qualitative data of the questionnaire conclude that first year Electronics students find reading in English difficult and

interesting at the same time. Despite the fact that they have the issue of reading comprehension, those students use different strategies in their own way while reading texts in order to achieve their reading comprehension and get the needed information from the text.

According to the results discussed from the previous chapter, we succeed to answer the research questions and confirm the suggested hypotheses. The outcomes obtained from the two research tools reveals and confirm that first year Electronics students encounter difficulties when reading ESP texts and they use some techniques unconsciously to achieve their reading comprehension.

The current study encountered some limitations and constraints. Firstly, time limitation is one constraint encountered during this study. If not restricted in time, we would have adopted an experimental study with the first year students. This could permit us to gather more concrete, valid and reliable data about the participants having difficulties in comprehending ESP texts and how they use effective strategies to overcome these difficulties. Despite all of these obstacles, we hope that this study has taken into account by students, teachers or any other reader.

To sum up, our dissertation is dealt with the difficulties that ESP students encounter while reading text, as first year students of Electronics at the IEEE of Boumerdes. Therefore, further researches on the same issue in different setting with different levels can be conducted. Furthermore, other researchers can be conducted using an experimental study.



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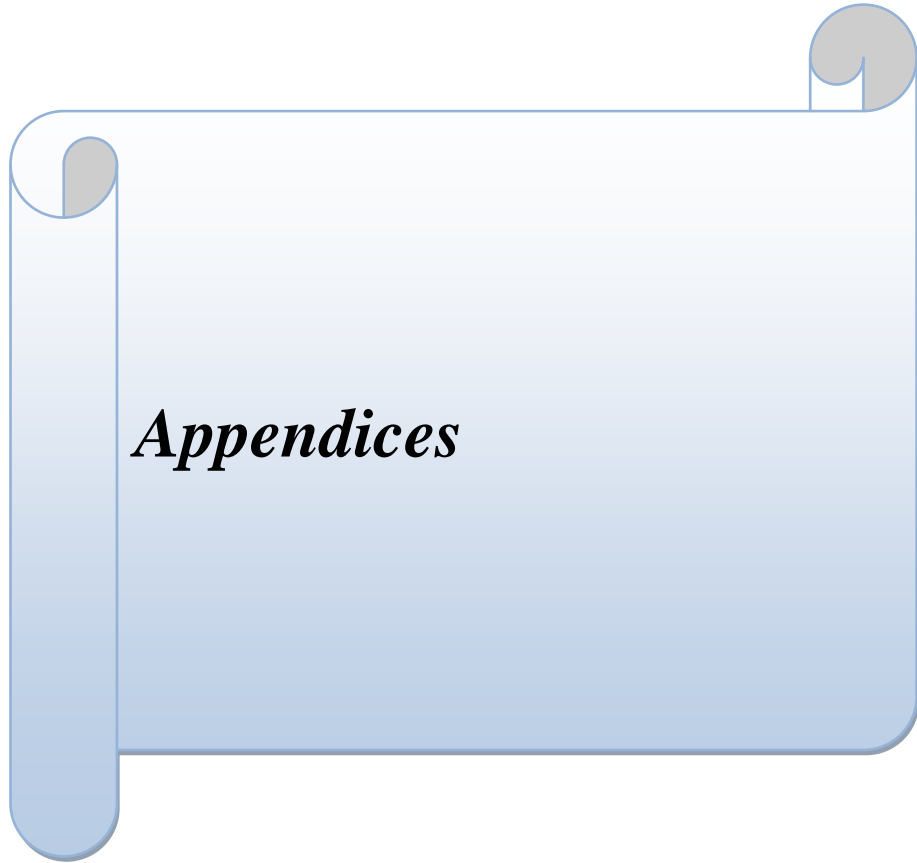
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***Appendices***

**Appendix: 1**

**Students' questionnaire**

Dear students

The purpose of this questionnaire is to shed the light on how first year Electronic students read in their academic studies, and how they attain comprehension when reading texts, articles and the like. In addition to this, to identify the problems they encounter while reading for specific purposes and the strategies they use to achieve comprehension.

Please, spare a few minute to fill out this questionnaire. Your personal responses and suggestions will be kept confidential. You are kindly requested to answer the questions by ticking of the appropriate box (es) or by providing full statement when necessary. Please do all the items.

Thank you in advance for your help cooperation.

**Section One: Reading Comprehension**

1. Do you read in English?

- Yes
- No

2. What do you read in your academic studies?

- Books
- Chapter of books
- Article
- Paper (handout ...)

3. What do you exactly read in an article, books, and chapter in books?

- The introduction

- Body
- The conclusion
- The whole text
- The introduction and the conclusion

4. How do you find reading in English?

- Easy
- Difficult
- Interesting
- Not interesting

5. Do you make extra reading outside your teachers' assignment?

- Always
- Never
- Sometimes
- Frequently

6. Do you read academic texts for the purpose of comprehending them?

- Yes
- No

If "NO" why do you read them, then? Justify please.

.....  
.....

**Section Two: Reading Comprehension Problems Faced in ESP**

7. How do you read in English?

- fluently
- With little difficulties

- With some difficulties

- With many difficulties

8. You find problems with unfamiliar vocabulary in the ESP text

Always  sometimes  rarely  never

9. Do you have difficulties in understanding the text in your field?

- Yes

- No

10. If the answer is yes, do you think that your problems are due to?

- Vocabulary

- Grammatical structure

- Paragraph organization

- Method of teaching

11. You do not comprehend what you read because of lack of prior knowledge

Always  sometimes  rarely  never

12. When you find a text difficult to understand you give up reading

Always  sometime  rarely  never

13. Do you take time to finish reading?

Always  sometimes  rarely  never

14. To overcome your reading difficulties do you make use of some reading strategies (skimming, scanning, prediction...etc)?

- Yes

- No

15. If yes what are the reading strategies do you use?

.....

.....

.....

**Section Three: Reading Strategies Used in ESP**

16. Before reading a text, do you look at any headings, graphs, drawings...?

- Yes

- No

17. Do these headings, graphs, etc. activate your background knowledge (depending on the topic) and help you predict the content of the ESP text?

- Yes

- No

18. Do you re- read a difficult part of an ESP text?

- Yes

- No

19 . While Reading, which of the following ways do you adopt in order to get information?

- Read the whole text to get a general idea
- Go quickly through the text to get the information needed
- Read the introduction and the conclusion only
- Try to understand the text relying on the themes graph illustration picture
- Use previous knowledge having relation with your text
- See colleague to give you explanation

20. You skim the ESP text first, and later you read the details

Always  sometime  rarely  never

21. Can you infer an author's message while reading ESP text?

- Yes
- No

22. You skip unknown word that you couldn't clarify if you understand the gist

Always  etimes  ely  er

23. Which of the following ways do you adopt to get the meaning of sentence?

- Read the sentence many times until you understand it
- Relate the sentence to previous ones
- Deals with the sentence word by word

24. To get the meaning of a word, which of the following ways do you adopt?

- Try to guess its meaning from the context
- Look it up in dictionary
- Translate it into French or Arabic

**Thank you for your collaboration!**

**Appendix: 2**

**Teachers' Interview**

This interview aims at identifying teachers' use of techniques and materials in their teaching practices (ESP). You are kindly requested to answer the following questions to help us carry out our research.

Thank you for your collaboration!

Department: .....

Qualification: Licence  Master/Magister  Doctorat

1. Do you teach English for Specific Purposes?

• Yes

• No

2. Do you think that your learners are interested in English course?

.....  
.....

3. Do you focus in your teaching on the reading skill?

• Yes

• No

4. What comprehension strategies do you use in teaching the reading skill?

.....

5. Do you select your own materials?

• Yes

• No

6. Which materials do you use to adopt these strategies in teaching reading?

.....  
.....

7. According to you, what kind of difficulties students faced when they read?

.....

.....

8. What do you suggest to overcome these difficulties?

.....

.....

**Thank you for your collaboration!**