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**Academic Writing Difficulties: A Student Perspective, the Case of PhD
Students of Electronics Department at Saida University**

**A Dissertation Submitted to the Department of English in Partial Fulfilment of the
Requirements for Degree of Master of Art in Didactics**

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Dedication

I wish my beloved parents, brothers, sister, and wife well first of all, find here the expression of my sincere gratitude and thanks for their sacrifice, encouragement and all in order to ensure a best career to me...

...I dedicate this modest work to you.

Acknowledgements

First and foremost, praise be to Allah who grants us the wonderful faculty of reasoning. Praise be to our Creator who incites us to acquire knowledge. Praise be to Allah who granted us patience and will to achieve this work.

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Abstract

All post-graduate students write and struggle to finish their dissertations, articles and reports because writing is a difficult process to be wedged into an academic schedule. English Academic Writing (EAW) at advanced levels constitutes a real challenge for most of those students because of writing difficulties that fill an important gap. This claims effective strategies and practical techniques to enable students to efficiently maximize the English language gains and successfully produce English academic Writings.

The purpose of this research work is to determine what difficulties PhD students of Electronics encounter when writing their research papers in English to offer them a compendium of academic writing techniques, and help them effectively target different problem areas of writing based on the main findings of current research working with several sets of simple rules that collectively make a noticeable difference in the quality of students' English academic writing. The sample of the study consists of 15 post-graduate students enrolled in Electronics Department at Saida University. The research adopts the analytic approach to facilitate the gathering of information to assist in achieving study goals. The approach depends on detailed questionnaire and interview administrated to Electronics PhD students as main instruments for obtaining required data. Analysis of the data shows that English academic writing face many barriers such difficulties in identifying the skills needed for successful writing, and avoiding plague words and phrases.

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List of Abbreviations

EAP: English for Academic Purposes.

EAW: English Academic Writing.

EFL: English as Foreign Language.

EGP: English for General Purposes.

ESP: English for Specific Purposes.

EST: English for Science and Technology.

OE: Oral Expression.

PhD: Philosophy Doctorate.

RC: Reading Comprehension.

RM: Research Methodology.

WE: Writing Expression.

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General Introduction

Writing is crucial to the academic world. It is the main mode of communication among scientists and scholars and also a means for students to obtain their degrees. Academic writing in fact is a collaborative exchange of ideas to pursue new knowledge. From inquiry to academic writing, a text and reader demystifies cross-curricular thinking and writing by breaking it down into a series of comprehensible mechanics that English for Academic Purposes (EAP) students can learn in order to join in.

All students need to write, and many struggle to finish their stalled dissertations, journal articles, book chapters, or research proposals. Writing is a hard work and can be difficult to wedge into a frenetic academic schedule, it is rightly remarked that writing productively does not require innate skills or special traits but specific tactics and actions that help students to master the standard organizational patterns and the basic concepts of academic writing process with extensive practice.

In the classroom, the English for Specific Purposes (ESP) teacher should give more attention to students' difficulties in academic writing and try to introduce a variety of new instructions and methodological approaches and search for better teaching methods and ways to improve the syllabi of writing process and prepare them for academic work. The teacher can guide students seamlessly using clear and succinct explanations that help students understand the key concepts and rules and allow them apply different models and varied practices at all stages of writing process, likewise students can turn in better writing, and teachers can save time spent correcting drafts.

The present research work aims to investigate students' academic writing difficulties taking into account the case of PhD students of Electronics Department at Saida University who are going to write scientific articles and defend Doctorate thesis in order to provide relevant activities and suggestions as to how they can become better writers in the future. In this context, the major research questions raised are mainly linked to:

- What are the major factors that limit Electronic PhD students' writing performance?
- What are the relevant agents that improve Electronic PhD students' writing competence?

Accordingly, the major problematic involved is about how to raise student's awareness about the importance of learning effective writing orientations to prepare them for their final dissertations as well as help them surpass their writing difficulties and succeed in publishing scientific articles and reports when doing research in the future. These hindrances in fact may be returned to the following hypothesis:

- The lack of the quality of ineffective methodologies and strategies already learnt by PhD students of Electronics. The ESP teacher should give pertinent techniques and advices for students to write productively, for example he should focus on how to improve writing quality, how to write academic dissertations, and how to publish scientific articles and reports.
- The ambiguity found in Electronic PhD students' knowledge about how to balance different academic writing techniques, corresponding instructional activities and assessments. The ESP teacher should explain students essential features needed for effective writing processes focusing on relevant characteristics covering pedagogical manner, literary style and artistic writing skills.

To undergo this study, a detailed questionnaire was done with post-graduate students of Electronics Department at Saida University including both close and open-ended questions in order to collect large quantity of data to frame real interpretations and conclusions and examine the degree of effectiveness of academic writing methodologies followed by PhD students of Electronics when editing their research papers. The questionnaire and constitutes a special tool that provide a clear prospect about the investigated issue because they allow the gathering of valid data relatively in a short time that offers a fresh perspective on how to successfully produce an academic writing.

The present work is divided into three main chapters: the first deals essentially with the productive English Academic Writing methodologies to promote a good writing style. The second chapter deals mainly with the basic students' writing difficulties and barriers that affect directly their product quality, and the third chapter demonstrates how to enhance Electronic PhD students' writing process through using effective tactics and tools. A number of lacunas have hindered this study including the lack of sources exploring the topic, a decrease in the number of PhD students who contributed in raising the investigated problem, and time-constraints of the investigation period that limited the study.

Chapter One: An Overview of English Academic Writing

1.1. Introduction

Nowadays, English is considered to be the world written-language of science, technology, and education, it is the common language used for communication over areas where several languages have usually been chosen. In fact, the knowledge of English academic writing methodologies allows students to widely share their research in all fields. This introductory chapter offers insight into English academic writing including:

- English as academic language of research and education;
- Thinking about academic writing;
- Major academic writing genres;
- Important elements and features of academic writing for texts of different genres.

1.2. English as Academic Language of Research and Education

Today, English is becoming a priority academic requirement. It is the language of science and technology, medicine and health care fields, commerce, business and industry, and much more. When we investigate why so many nations have in recent years made English an official language of instruction or chosen it as their chief foreign language in schools and universities, one of the most important reasons is always educational in the broadest sense, *Harry Mashabela*, a Southern African writer has clarified this importance like: “...*learning and using English will not only give us the much-needed unifying chord but will also land us into the exciting world of ideas; it will enable us to keep company with kings in the world of ideas and also make it possible for us to share the experiences of our own brothers in the world ...*” (Crystal, D. 1995), so the dominant view is certainly that a person is more likely to be in touch with the latest thinking and research in a subject by learning English than by learning any other language.

In the same respect, a 1981 study of the use of English in scientific periodicals showed that 85% of papers in biology and physics were being written in English at that time, whereas medical papers were some way behind (73%), and papers in mathematics and chemistry further behind still (69% and 67% respectively). However, all these areas

had shown a significant increase in their use of English during the preceding fifteen years and the figures fifteen years further on would certainly be much higher. This can be seen even in a language-sensitive subject such as linguistics, where in 1995 nearly 90% of the 1500 papers listed in the journal *Linguistic Abstracts* were in English.

Likewise, English has become the normal medium of instruction in higher education for many countries including several where the language has no official status. Advanced courses in The Netherlands, for example, are widely taught in English. If most students are going to encounter English routinely in their monographs and periodicals, it is suggested then it makes sense to teach advanced courses in that language, to better prepare them for that encounter. The pressure to use English these days has grown as universities and colleges have increasingly welcomed foreign students, and lecturers have found themselves faced with mixed-language audiences, and the English language teaching has become one of the major growth industries around the world in the past thirty years.

1.3. Thinking about Academic Writing

In general, writing is a complex process that requires a number of various skills. As research shows, its nature may be treated differently in several cultures and educational systems. The ways of writing, including academic, also vary, sometimes considerably; there exists an opinion that being able to write is a special talent, however, students can develop their writing abilities by following certain strategies and practicing various patterns and activities that will help them to reflect upon the aspects of writing and the ways of its mastering. Academic writing is viewed as a kind of verbal art that is assumed to be mastered in its three aspects orthographic, grammatical, and stylistic; much emphasis is laid upon the so-called “*culture of the word*” that reflects a striving toward grammatically and stylistically correct-written texts, which also have to invoke a certain aesthetic impression (Yakhontova, T. 1999). In effect, to be a good writer means primarily to richly explore and utilize the wealth of the English language, to demonstrate the awareness of its grammatical norms and an adequate knowledge of its various resources. In this respect, Connor (1996), an American specialist in second language writing notes: “...writing classes focus exclusively on composing and other writing skills rather than on the study of literature or the English language”.

One may conclude, however, that writing as thinking, as a cognitive process, and writing as a verbal art are two faces of one phenomenon, which is understood differently in different cultures (*Mauranen, A. 1993*); recent research has demonstrated that there exist certain differences in the organization and the ways of argumentation in academic writing of different languages and cultures, such investigations have focused on the comparison of English and other languages, usually with a practical aim: to help non-native speakers to master the conventions of English academic writing.

1.4. Major Academic Writing Genres

Learning writing in the majority of cases is learning genre that is developing knowledge of the rules of organization and the structure of integral texts. In simple words, genre is an event of communication, insofar as it is aimed at achieving certain communicative purposes and serves as a means of accomplishing such purposes; effectively genres are types of academic texts with a recognizable set of relatively stable features that are mainly classified into:

1.4.1. Summaries

A summary is a shortened version of a text aimed at giving the most important information or ideas of the text. Summarizing in fact is an important part of writing academic papers, which usually include extensive references to the work of others. The development of summarizing skills is therefore important for those who wish to master English academic writing, so a good summary should satisfy the following requirements (*Jordan, R. R. 1996*):

- It condenses the source text and offers a balanced coverage of the original. Avoid concentrating upon information from the first paragraph of the original text or exclusively focusing on interesting details.
- It is written in the summary writers own words.
- It does not evaluate the source text and is written in a generally neutral manner.
- The first sentence of the summary contains the name of the author of a summarized text, its title, and the main idea using the present tense.

- The summary uses enough supporting detail and transition device that show the logical relationship of the ideas.
- It satisfies the requirements set to its length which may be quite different; however, for a rather short text, the summary is usually between one-third and one-fourth of its length.

In longer summaries, it is advisable to remind a reader that you are summarizing. For this purpose, the student may use specific patterns also some logical connectors such as further, also, in addition, furthermore, moreover...etc and use, if necessary, other reporting verbs. Table 1.1 shows the main steps for a good summarizing process:

Step	Task
1	Skim the original text and think about the author's purpose and main idea of the text.
2	Try to divide the text into sections, or, if it has subheadings, think about the idea and important information that each section contains.
3	Read the text again highlighting with marker important information in each section or taking notes. Write an outline of the text.
4	Try to write a one-sentence summary of each section/part of the outline in your own words; avoid any evaluation or comments. Use the words and expressions synonymous to those used by the author of a summarized text.
5	Decide what key details may be added to support the main point of the text and write them down.
6	Write the first sentence of the summary with the name of the author of a summarized text, its title, and the main idea.
7	Add appropriate transition devices to show the logical relationship of the ideas and to improve the flow of the summary.
8	Go through the process again making appropriate changes if necessary.

Table 1.1 - Main Steps in Summarizing (Jordan, R. R. 1996)

1.4.2. Reviews

A review is an article that critically examines a new paper, volume, book or any other piece of writing and mainly has two connected purposes:

- Let the readers know about the content of the book, volume, or paper under review;
- Present the reviewer's subjective opinion of the reviewed work.

Reviews are published in the special sections of scholarly journals. The size of reviews depends upon the requirements of a particular journal. Normally, their overall format includes the following sections (*Jordan, R. R. 1996*):

1. **Introduction:** The Introductions of reviews tend to include the following moves: Establishing the context, providing an overview of the paper, and providing the reviewer's overall impression of the reviewed work.
2. **Summary:** This part summarizes the main content of the paper under review, it includes a detailed description of the organization of the reviewed paper that is of its sections and of the main themes and content of each structural part. Quite often, the summary section highlights additional material such as pictures or appendices.
3. **Critique:** This section provides critical judgments and comments about the paper, volume or book which is reviewed. The evaluation of a reviewer is usually supported by appropriate examples and data from the reviewed work. This part therefore should have the following linguistic features:
 - Evaluative language;
 - Phrases or groups of phrases expressing concessive contrast;
 - Unreal conditional sentences and subjunctive forms.
4. **Conclusion:** Some reviews end up with the critique part, while others may provide an overall conclusion. The conclusion section of reviews may summarize once again the reviewer's overall impression of the paper, the volume or the book, outline its various implications and contributions, and indicate its potential readers.

1.4.3. Research Papers

A research paper is defined as a relatively short piece of research usually published in a journal, a tutorial or a volume. The features of research papers considerably vary

across disciplines: for example, an essay in literary criticism would essentially differ from a paper, say, in mathematics. Also, theoretically oriented articles are different from those reporting the results and findings of a concrete investigation.

Such popular kinds of papers usually have the so-called IMRD format (Introduction, Methods, Results, and Discussion) or some variant of it. Typically, the structure of such a paper would be as follows (*Swales, J. M. 1990*):

1. **Abstract:** A short account of a research work usually placed before it describes main features discussed in the work.
2. **Key words:** Key words are significant words or word-combinations consisting of more than one word from a paper or document used as an index to the contents. When listed in databases, they help to provide efficient indexing, search and retrieval mechanisms thus enabling the reader to quickly find texts on the topic of interest. Key words are usually placed after the abstract before the main body of a text.
3. **Introduction:** The purpose of the introduction is to acquaint the reader with the topic of the paper and to attract interest in it. The Introduction is an important section of the paper insofar as it is responsible for the first impression the paper produces. According to *Swales (1990)*, introductions in English papers tend to follow a certain pattern of organization of their content. The elements of this pattern are called moves where each move can be realized via a number of rhetorical strategies.
4. **Method:** The methods section provides description of methods, procedures, materials, and subjects used in a study. The characteristics of this part of a research paper vary across fields. As *Swales and Feak (1994)*, for example, point out, the methods sections in social sciences are rather detailed and contain justifications and explanations, because methodology in these disciplines is often an important and debated issue. However, in hard sciences, biological and medical research, standard methods and practices are much more widely available.
5. **Results:** The Results section reports data or information obtained in the course of the study. In this part of the research paper, authors put forward their new knowledge claims through the demonstration, explanation, and interpretation of the findings. The presentation of results is typically followed by the Discussion section, although the division between these two sections is not rigid, and they may appear together as one structural part of a research paper. Even if the Results section is formally separated

from the Discussion, it often contains some comments on the data. The purpose of such comments is to provide a timely response to the critical remarks or questions about results or methods that the author of a paper is likely to anticipate.

The authors of a textbook on writing research reports, *Weissberg and Buker* (1990), suggest a possible model for the Results section, which consists of three moves, or, as the authors call them “three basic elements of information”:

- 1) Element 1 indicates the location of the data to be discussed.
- 2) Element 2 states the most important findings.
- 3) Element 3 comments on the results.

6. Discussion: The Discussion section interprets the results and their relationship to the research problem and hypotheses as claims *Jordan* (1996). As mentioned above, division between the discussion and the results sections is not rigid; furthermore, it is not always easy to distinguish between the discussion and the conclusions sections. Applied linguist *Dudley-Evans* (1997) have shown that the Discussion sections of research articles are organized as certain logical sequences of rhetorical moves; these moves are as follows:

- 1) Background information.
- 2) Statement of results.
- 3) Expected results.
- 4) Reference to previous research (comparison).
- 5) Explanation of unsatisfactory results.
- 6) Exemplification.
- 7) Deduction and hypothesis.
- 8) Reference to previous research.
- 9) Recommendation.
- 10) Justification.

7. Conclusions: As *Swales and Feak* (1994) indicate, the difference between the discussion and conclusion sections is largely conventional depending on traditions in particular fields and journals. Quite often, discussions and conclusions appear as one part of a research paper. If the Conclusions section appears as a separate part, it usually consists of the following moves:

- 1) Summary of the results.
- 2) Implications (theoretical and practical).

3) Plans for future research or possible further research in the area.

Berkenkotter and Huckin (1995) claim that is not very common nowadays because scientists compete for obtaining funding for their research and prefer not to share their ideas or disclose future plans.

1.4.4. Research Paper Abstracts

A research paper abstract (*Santos, M. B. 1996*) is a short account of a research paper placed before it, written by the author of the paper. The article abstract should perform a number of important functions, it:

- Serves as a short version of the paper, which provides the most important information;
- Helps, therefore, the potential audience to decide whether to read the whole article or not;
- Prepares the reader for reading a full text by giving an idea of what to expect;
- Serves as a reference after the paper has been read.

The paper abstract has also certain textual and linguistic characteristics, so it:

- Consists of a single paragraph;
- Contains 4 to 10 full sentences;
- Tends to avoid the first person and use impersonal active constructions, for example: “This research shows...”, or passive voice, for example: “The data were analyzed...”;
- Rarely uses negative sentences;
- Uses meta-text, for example: “This paper investigates...”;
- Avoids the use of acronyms, abbreviations, and symbols;
- The most frequent tense used in abstracts is the present tense. It is used to state facts, describe methods, make comparisons, and give results.

Article abstracts are often divided into informative and indicative abstracts. The informative abstract includes main findings and various specifics such as measurements or quantities; this type of abstract often accompanies research reports and looks itself like a report in miniature. Indicative abstracts indicate the subject of a paper; they provide a brief description without going into a detailed account. The abstracts of this type often

accompany lengthy texts or theoretical papers. The combination of both types may also exist.

Santos (1996) has suggested the structure for the English paper abstract including the following moves:

- Situating the research by stating current knowledge and problems in the field;
- Presenting the research by indicating its main purpose or main features;
- Describing its methodology;
- Summarizing the results;
- Discussing the research by drawing conclusions and giving recommendations.

Nowadays, abstracts are widely used in electronic storage and retrieval systems and by on-line information services. Their role in dissemination and circulation of written research products is further increasing in the information age.

1.4.5. Conference Abstracts

A conference abstract is a short account of an oral presentation proposed to the organizers of a conference. It is a widespread and important genre that plays a significant role in promoting new knowledge within scientific communities, both national and international.

Nowadays, students often try to submit abstracts to international conferences. For many of our academics, the conference abstract is a kind of a pass to the world research communities that provides, if accepted, various opportunities for professional contacts and communication. The abstracts submitted for international and major national conferences are usually reviewed by conference committees; a certain number of abstracts may be, as a rule, rejected. Conference abstracts, therefore, participate in the competition for acceptance and need to impress reviewing committees; that is why they may be written in a somewhat promotional, self-advertising manner. As *Berkenkotter* and *Huckin* (1995) indicate, a dominant rhetorical feature of conference abstracts is “interestingness” created by the novelty of a topic and its presentation in an interesting for the potential audience way. As conferences in different countries are usually planned considerably in advance, abstracts

may propose uncompleted research, which is planned to be finalized before the beginning of the conference.

English Conference abstracts have certain textual characteristics, they are usually of one-page length (200-300 words) and consist of three paragraphs on average. Some conferences require in addition a shorter version of an abstract for inclusion in the conference program, such versions do not normally exceed 50 words. Generally, conference abstracts tend to have five basic rhetorical moves that may be realized by certain rhetorical strategies (*Yakhontova, 2002*):

- Outlining the research field by reference to established knowledge;
- Justifying a particular research or study by indicating a gap in the previous research;
- Introducing the paper to be presented at the conference;
- Summarizing the paper by giving its brief overview;
- Highlighting its outcome by indicating the most important results or their possible applications and implications.

1.5. Important Elements and Features of Academic Writing for Texts of Different Genres

1.5.1. Academic Name

The names of English academic authors normally consist of the first (given) and last (family) names, the given name always being placed before the last name (but, certainly, not in bibliographies), for example, “*Richard Winkler.*”, sometimes a middle initial is added, for example “*Dwight K. Stevenson.*”. Academic names are considered to be formal, although shortened versions of the first names may sometimes be met, for example “*Liz Hamp-Lyons*” (instead of “*Elizabeth Hamp-Lyons*”).

1.5.2. Titles

Titles are important components of academic and research writing, responsible for gaining readers’ attention and facilitating positive perceptions of any kind of written

research. *Swales* and *Feak* (1994) suggest the following requirements for good academic titles:

- The title should indicate the topic of the study;
- The title should indicate the scope of the study;
- The title should be self-explanatory to readers in the chosen area;
- Titles may have quite different syntactic structures. The main structural types of English titles are as follows (*Yakhontova*, 2002):
 - ❖ Nominative constructions that are titles with one or more nouns as principal elements, for example: “Genetic and Environmental Influences on Serum Lipid Levels in Twins”.
 - ❖ Colon-titles consisting of two parts separated by a colon, for example: “The Immigration History Research Center's Ukrainian Collection: Study in Bibliographic Access through Computer Systems”.
 - ❖ Titles consisting of two parts of different syntactic types separated by a punctuation mark other than the colon. These constructions are close in their rhetorical features to colon-titles, for example: “Born Again? The Ethics and Efficacy of the Conversion Experience in Contemporary Management Development”.
 - ❖ Verbal constructions, that is titles containing a non-finite form of a verb as a principal element, for example: “Solving Short Wave Problems Using Special Finite Elements”.
 - ❖ Titles in the form of complete sentences, for example: “Language is not a Physical Object”.
 - ❖ Titles beginning with the prepositions “*on*, *to*, *toward(s)*”, for example: “Toward a Socio-cultural Theory of Teacher Learning about Student Diversity”.
 - ❖ Nominative titles with the conjunction “*as*”, for example: “Writing as Language”.

The types and length of titles vary across fields. Hard and natural sciences usually use long, detailed nominative titles. Social sciences and humanities tend to use shorter but more diverse types of titles, often with the preference for colon-titles. Such titles separate ideas in the relation of general-specific with the first part indicating a research area and the second one naming an aspect of the investigation.

1.5.3. Paragraphs and Paragraph Division

The division into paragraphs is an important feature of any type of writing. A paragraph is a textual unit usually consisting of a number of sentences which deal with one main idea. In writing, a paragraph is defined by indentation and sometimes by extra blank spaces before and after it. Indentation means starting a line of writing farther from the margin than the other lines.

In English academic writing, all paragraphs with the exception of the first one should be indented. A paragraph is, therefore, a visual textual unit. By dividing a text into paragraphs, authors give cues as to how process the texts. In English academic writing, the length of a paragraph is often between 75 and 125 words. In a short piece of academic writing for example, the conference abstract or text summary, each major point may be developed into a separate paragraph. However, in longer types of papers like research papers, several paragraphs may be necessary to develop one point. The topic sentence of a paragraph tells what the paragraph is about. It can be put in any place in the paragraph, but putting it at the beginning, guides paragraph development.

1.5.4. Citations

Citations play an important role in academic texts. They are used to demonstrate the familiarity of the citing author with the field of investigation, to provide support for his/her research claims or criticism. Also, by describing what has already been done in the field, citations point the way to what has not been done and thus prepare a space for new research (Swales, 1990). Giving credit to cited sources is called documentation; there are two main methods of documenting: The first one is numeric involves putting a number near the reference (usually in square brackets), for example: “In [5] the authors give an interesting numerical account of the advantages and disadvantages of the BV-formulation for the image restoration problem”. The full reference is given then in the bibliography at the end of the text, or as a footnote at the bottom of the page. The second procedure of documenting, which is probably more popular, consists in putting a short reference in the text itself. Normally, it includes the authors’ last name and the year of publication and page numbers in parentheses, for example: (Osofisan 1986, 786-7), or (Chan 1993: 31). If a reference is made to the whole work, the page numbers are usually not given (Durning,

1990). If several authors are simultaneously cited, their names are separated in parentheses by a semicolon: (Edwards, 1992; Schuldiner, 1995). Sometimes, an ampersand (&) is used in place of *and* between the names of two authors, for example: (Sudhof & Jahn, 1991). If a reference is made to a paper written by more than two authors, it is possible to give the name of the first author followed by the Latin abbreviation *et al.*: (Liu et al., 1992; Krickson et al., 1992).

Failure to provide the appropriate documentation may lead to the accusation of plagiarism. Plagiarism is conscious copying from the work of others. Sometimes, however, it is possible to borrow some information or phrases unintentionally, although this is not treated as a valid excuse. Always provide references to the mentioned sources. The words or phrases of other authors used (quoted) in academic writing are called quotations which may be used according two basic ways:

- The author's words in quotation marks (double in American usage and single as in British) are incorporated into the text and separated from the rest of the sentence by a comma or, if necessary, by a question mark, or an exclamation point, this is typical for short quotations;
- In case of longer quotations, the quotation is indented and quotation marks are often omitted.

1.5.5. Footnotes and Notes

Footnotes are put at the bottom of the page in a book or a journal. They are used to explain a word or other item, or to add some special information or a reference. Notes appear at the end of the paper, they tend to be longer and more detailed than footnotes. Currently, most journals recommend to avoid footnotes and to use notes only.

A footnote or note is usually marked by a small number written above the word or item in the text. The explanation of the item has the same number. The explanations are numbered in numerical sequence. In footnotes, the first line of each entry is indented, for example: ¹“For details and bibliography see Alexander Sydorenko, *The Kievan Academy in the Seventeenth Century*, Ottawa: University of Ottawa Press, 1977”.

1.5.6. Lists of References or Bibliographies

The list of references at the end of a paper usually entitled references or works cited is in most cases arranged in alphabetical order in a way that it should be clear and consistent. Normally, a list of references includes the following information:

- Author's last name and initials;
- Title of work;
- Publication date;
- Volume number for journals;
- Issue number for journals;
- Editor's last name and initials only for collections;
- Place of publishing for books and collections;
- Publisher's name for books and collections.

In fact, it is always necessary to check the referencing formats required by a journal or a publishing house before submitting the research work, for example in:

1. **Books:** Author's last name, initials, publication date, title (underlined or in italics, often capitalized), place of publication, publisher. For example: “Fairclough, N. (1989). *Language and Power*. London: Longman.”
2. **Papers in volumes or book chapters:** Author's last name, initials, publication date, title (in quotation marks), editor's last name and initials, title of the volume (underlined or in italics, often capitalized), place of publication, publisher, page numbers. For example: “Reid, W. V. (1992). How many species will there be? In Whit more, T. C. And J. A. Sayer, (eds.), *Tropical Deforestation and Species Extinction*. London: Chapman & Hall.”
3. **Articles in journals:** Author's last name, initials, publication date, title (not capitalized, sometimes in quotation marks), name of the journal (underlined or in italics, capitalized), volume number, issue number, page numbers. For example: “Dienes, J. K.: On the analysis of rotation and stress rate in deforming bodies. *Acta Mech.* 33, 217-232 (1979).”.

1.5.7. Acknowledgments

Acknowledgments that are the expressions of gratitude to colleagues, sponsors, supervisors...etc have become a standard part of English academic papers and research publications. They are usually placed at the end of the paper, or, in case of books, at the beginning before the main text.

Acknowledgments also allow the author to demonstrate that he is a member of a certain academic community. They are usually written in the first person “I” for a single author and “we” for co-authors. Below are several patterns of the most widespread elements of acknowledgments. Authors can make use of them in their own English writing.

1.5.8. Appendixes

Appendices are compilations added to the report, paper, or book, usually include important data, explanatory and illustrative materials. Appendixes are placed outside the main body of the text after the acknowledgments and lists of references. If there are several appendices, they are appropriately enumerated, for example: “Appendix 1, Appendix 2, etc.”, or labelled with letters, for example: “Appendix A, Appendix B, etc”.

Chapter Two: Academic Writing Characteristics, Processes and Difficulties

2.1. Introduction

Students generally face a variety of writing tasks when doing their research just as they work toward their chosen degrees. Naturally, these tasks will vary from one degree level to another; they become progressively more complex and demand to be written academically just as the research claims: *“Writing is not simply a task to be done once research is completed, it is an integral part of the work progress”* (Nicholas. H). In the second chapter, the focus is on the writing task that may be required in the different stages of a student career opening with important characteristics of academic writing, to illustrating processes and advices on writing quality academic papers, and closing with discussing typical academic writing difficulties that students face in the world of academia. This descriptive chapter presents mainly exhaustive illustrations of:

- Academic writing characteristics;
- Academic writing processes;
- Academic writing difficulties.

2.2. Academic Writing Characteristics

Writing about research is a creative act that needs to cram ideas and special methodological details into a tight manuscript. Writing is a hard skill not a special talent which must be developed through systematic instruction and practice. It begins by creating ideas, organizing them, writing a rough draft, and ends by editing the paper. In fact, *“Writing an accurate and understandable paper is just as important as the research itself”* (Robert. A) because it requires the knowledge of important characteristics of definite academic writing which present a capital product of common considerations including audience, purpose, organization, style, flow and presentation (Figure 2.1): Students therefore can benefit from an interactive writing process that provides a useful model of writing and allows them scaffolding their abilities to write for a variety of purposes and audiences. Interactive writing within a meaning-focused writing program provides a useful scaffold for English as Foreign Language (EFL) learning as they begin to write in English and has been shown to improve writing as well as reading abilities (Craig, 2003).

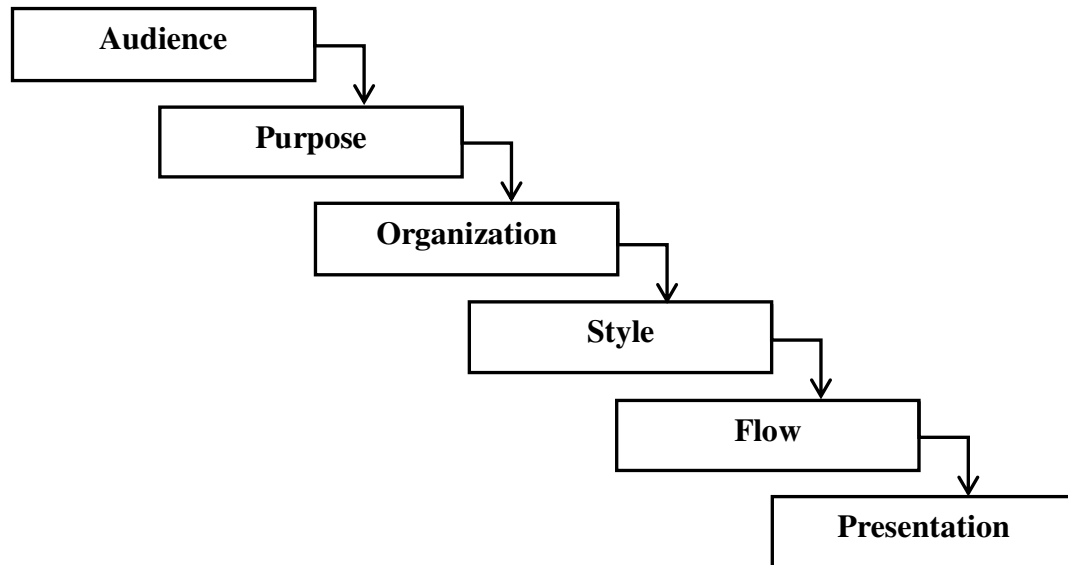


Figure 2.1 - Considerations in Academic Writing (Craig, 2003)

Interactive writing is mainly based on the theory of learning, in which students work with a more knowledgeable other (teacher for example) to write at a level that is beyond which they are capable of writing independently after using certain strategies (Vygotsky, 1978):

- 1) Decide on a writing skill, the student aims to improve it (for example summarization, blending sentences, using transition cue words...etc).
- 2) Engage in an interactive writing process in which, the student will apply the skill from his own knowledge.
- 3) Collaborate with other students as they suggest other ways of writing and methodologies, revise and edit existing pieces of writing.
- 4) Collaborate with a more knowledgeable other through questioning and scaffolding to take reliable suggestions that help extending his writing.

2.2.1. Audience

Even before the student writes, he needs to consider his audience. The audience for most students will be an instructor who is presumably quite knowledgeable about the assigned writing topic. To be successful in writing task, the student needs to have an understanding of his audience's expectations and prior knowledge because these will affect the content of his writing.

2.2.2. Purpose

Audience and purpose are typically interconnected. If the audience knows less than the student who wrote the academic paper (other students for example), the student's purpose is often instructional, but if the audience knows more than him (teachers for example), the student's purpose is usually to display familiarity, expertise and intelligence. In fact, the interesting question arises as to what strategy a student can use to make display.

2.2.3. Organization

Information in an academic paper is presented in a structured format which has regular and predictable patterns of organization. The student can take advantage of these patterns, so that readers can still follow, even if he makes errors. Academic writing employs a variety of organizational patterns such as paragraphs, sections, chapters...etc. As suggested *Hoey* (1983), the student should organize information in terms of problem-solution following four parts:

- 1) Description of a situation;
- 2) Identification of a problem;
- 3) Description of a solution;
- 4) Evaluation of the solution.

2.2.4. Style

Students need to be sure that their communications are written in the appropriate style. The style of a particular academic paper must not only be consistent, but must also be proper for the message being conveyed and for the audience. A formal research report written in informal English for example, may be considered too simplistic, even if the actual ideas and data are complex. One difficulty in using the appropriate style is to know what is considered academic and what is not. A distinctive feature of academic writing style is choosing the more formal alternative when selecting a verb, noun or other part of speech.

2.2.5. Flow

Another important consideration for successful academic writing is the flow moving from one statement in a text to the next. Naturally, establishing a clear connection of ideas is important to help student's readers follow the text and understand the meaning easily. Linking words, phrases and punctuation help the student maintain flow and establish clear relationships between ideas. Tables 2.1 and Figure 2.2 list some of the more common linking words, phrases and punctuation arranged according to their function and grammatical.

	Subordinators	Sentence connectors	Phrase linkers
Addition		Furthermore, in addition, moreover	In addition to
Adversative	Although, even though, despite the fact, that	However, nevertheless	Despite, in spite to
Cause and effect		Therefore, as a result, consequently, hence, thus	Because of, due to, as a result of
Clarification		in other words, that is	
Contrast	While, whereas	In contrast, on the other hand, however, conversely	Unlike
Illustration		For example, for instance	
Intensification		On the contrary, as a matter of fact, in fact	

Table 2.1 - Linking Words and Phrases (Craig, 2003)

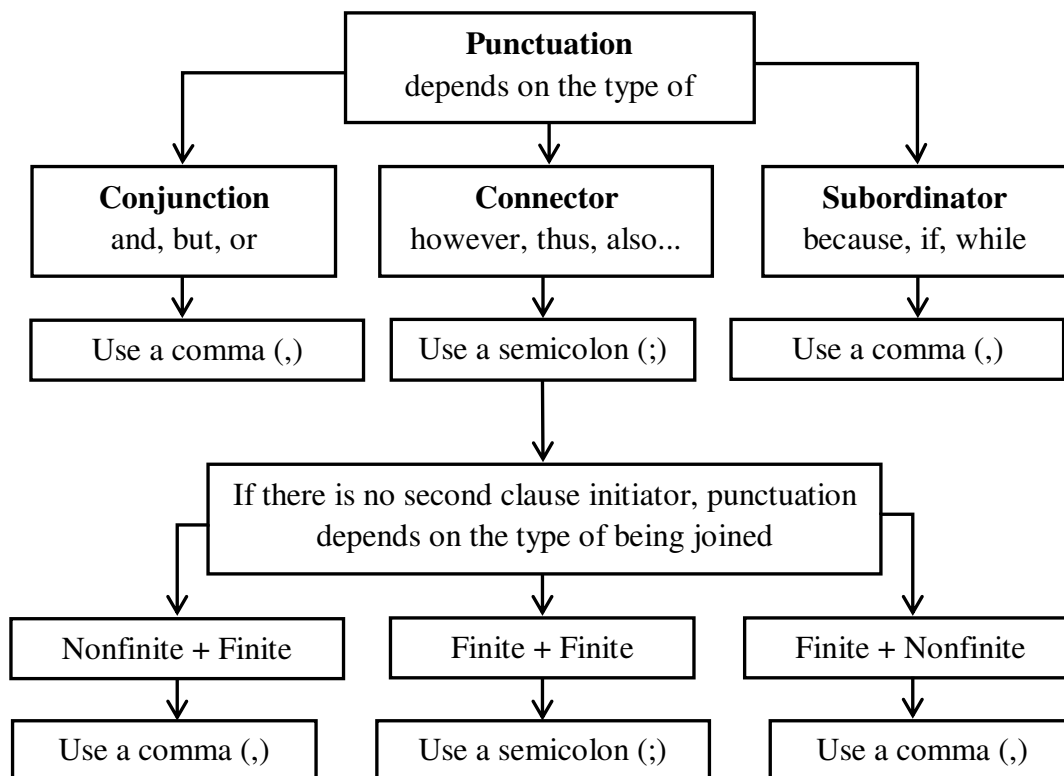


Figure 2.2 – Punctuation (Craig, 2003)

2.2.6. Presentation

Generally, errors that could have been avoided by careful proofreading are considered less acceptable. These include the use of an incorrect homophone, basic grammar errors, and misspelled words including those that are not identified in a computer spell-check routine. The academic paper is more likely to receive a positive response if the student performs the following task:

- 1) Consider the overall format of the written work;
- 2) Proofread for careless grammar mistakes;
- 3) Check for misspelled words.

2.3. Academic Writing Processes

English academic writing is probably different from academic writing in another language, the words and grammar and also the way of gathering and organizing ideas are different from what the student is used to. In fact, the English way of writing may seem

clumsy, repetitive, and impolite to the student: it is neither better nor worse than other ways; it is just different.

Accordingly, English academic writing is never a one-step action; it is an ongoing creative act. When the student first writes something, he has already been thinking about what to say and how to say it. Then after he has finished writing, he reads over what he has written and makes changes and corrections. He writes and revise and write and revise again until he is satisfied that his writing expresses exactly what he wants to say. The student has to practice the format and structure organization appropriate for English academic writing. The process of writing has roughly four sub-processes or steps (*Jordan, R. R. 1996*): In the first step, he creates ideas. In the second step, he organizes the ideas. In the third step, he writes a rough draft. In the final step, he polishes his rough draft by editing it and making revisions (Figure 2.3).

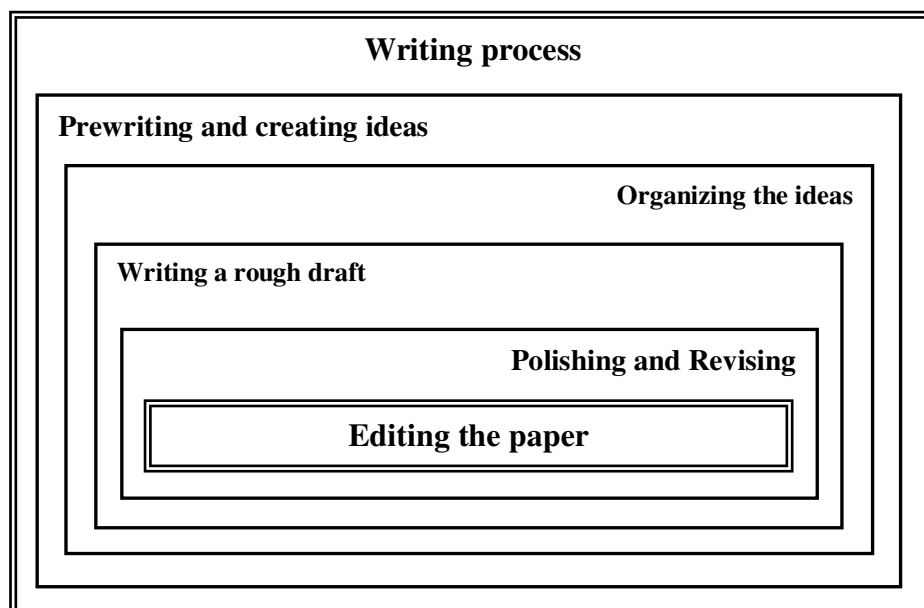


Figure 2.3 – Major Academic Writing Sub-processes (*Jordan, R. R. 1996*)

2.3.1. Sub-process 1: Prewriting

At the first sight, the student thinks always about a specific topic and about what he will write concerning the topic and then begins to take notes. This first step is named prewriting which is a way to get ideas about the raised topic at first. In this step, the student

will choose a topic and collect ideas to explain the topic. There are several techniques the student can use to get ideas, among them there is “listing” which is an important prewriting technique in which the student writes the topic at the top of a piece of paper and then quickly makes a list of the words or phrases that come into his mind. He should not stop to wonder if an idea is good or not; he writes it down, keeps on writing until the flow of ideas stops.

For example, if a student tends to write a paragraph about a person who has made a difference in the community or in the world, he writes at first a list of people who have made a difference. Then he decides which person to write about and circles his choice, therefore he begins to describe this person he chosen.

2.3.2. Sub-process 2: Organizing ideas

The next step in the writing process is to organize the ideas into a simple outline. The student will begin then by writing a sentence that names the topic and tell the main idea. Below the first sentence, he lists the two main ideas and any other words and phrases from the list that gave more information about them. The student in fact should choose which idea to talk about first, which to talk about next, which of the ideas he want to use and where he will use them.

2.3.3. Sub-process 3: Writing

The step that follows is to write a rough draft using an outline as a guide. The student will write his rough draft as quickly as he can without stopping think about grammar, spelling or punctuation to get his ideas down on paper. He will probably see many errors in the rough draft; this is perfectly usual and acceptable because it is just a rough draft. The student will fix the errors later. To succeed more, the student is required to learn more about other people’s writing to improve his own writing mechanics.

2.3.4. Sub-process 4: Polishing - Revising and editing -

In the final step, the student will polish what he has written. This step is also called revising and editing. Polishing is most successful if the student does it in two sub-steps. First, he attacks the big issues of content and organization that is known as revising.

Second, he works on the smaller issues of grammar, punctuation and mechanics that is known as editing.

The student can also contact a peer editor who will help him improve the content and organization in order to write a second draft or finalize his work. A peer editor can be the teacher who supervises the student or any other qualified person. A peer editor's job is then to read, ask questions, and comment on what is good and on what might be changed or made dearer.

2.4. Academic Writing Difficulties: Specious Barriers

Academic writing is a fundamental skill that all students will need at some point in their careers, especially when they end up at a research. It can be difficult for them because it presents their research to the world to be opened for critique. Academic writing is very essential and when something is essential, it needs to be made a priority for all students who should know how to write correctly academic papers. Indeed academic writing is a hard process that contains numerous difficulties and presents for the majority of students specious barriers that at first appear to be legitimate reasons for not writing, but they crumble under critical scrutiny. It is necessary before to look at the most common barriers to writing (*Kellogg, 1994*) in order to describe simple ways that overcome these difficulties consequently raise the importance of writing.

- **Barrier 1 - Read more to write well: "I need to read more articles and books; I need to do some more analyses first"**

This insidious barrier has wreaked a lot of havoc. This barrier seems reasonable because student cannot write an academic paper without doing statistics or reading a lot of articles. The student should be perfectionist on reading, outlining, idea generating, data analyses, and prewriting before generating the text. He should therefore do whatever he needs to do during the scheduled time, for example:

- ❖ Read more articles and books ;
- ❖ Search more analyses and statistics ;
- ❖ Review proofs and demonstrations ;
- ❖ Read a book or guidelines about academic writing processes to get advice.

Writing is effectively more than typing words and any action that is instrumental in completing a writing project counts as writing.

- **Barrier 2 - Motivation to write creative ideas: “I’m waiting until feel like it; I write best when I’m inspired to write...”**

This barrier is irrational because lot of students resist making a writing schedule and believe that the best work comes when they are inspired, for this it is no use trying to write when they are not in the mood. They need to feel like writing is pleasant like cigarette addicts who say that smoking relaxes them (*Parrott and Golby, 1999*).

When struggling students defend their unwillingness to make a schedule, they are sticking up for the cause of their struggles. If the student believes that he should write only when he feels like writing, he must ask himself some simple questions: How has this strategy worked so far? Am I happy with how much I write? Do I feel stressed about finding time to write or about completing half-finished projects? Do I sacrifice my evenings and weekends for writing?

It is easy to demolish this specious barrier; research has shown that waiting for inspiration does not work. *Boice* (1990) conducted a study with profound implications for people who waits for inspiration through assigning them to use different writing strategies. People in an abstinence condition were forbidden from all nonemergency writing, people in a spontaneous condition scheduled 50 writing sessions but wrote only when they felt inspired, and people in a contingency management condition scheduled 50 writing sessions and were forced to write during each session. The dependent variables were the number of pages written per day and the number of creative ideas per day. Figure 2.3 presents what *Boice* found: First, people in the contingency management condition wrote a lot; people who wrote when they felt like it were more productive than people told not to write at all because the inspiration is overrated. Second, forcing people to write enhanced their creative ideas for writing because writing breeds good ideas for writing.

Struggling students who wait for inspiration should join the unwashed masses of real successful professional writers who are prolific because they write regularly, usually every day. They reject the idea that they must be in the mood to write as *Keyes* (2003) put it: “*Serious writers write, inspired or not. Over time they discover that routine is a better friend to them than inspiration*”. One might say that students should make a schedule and stick to it.

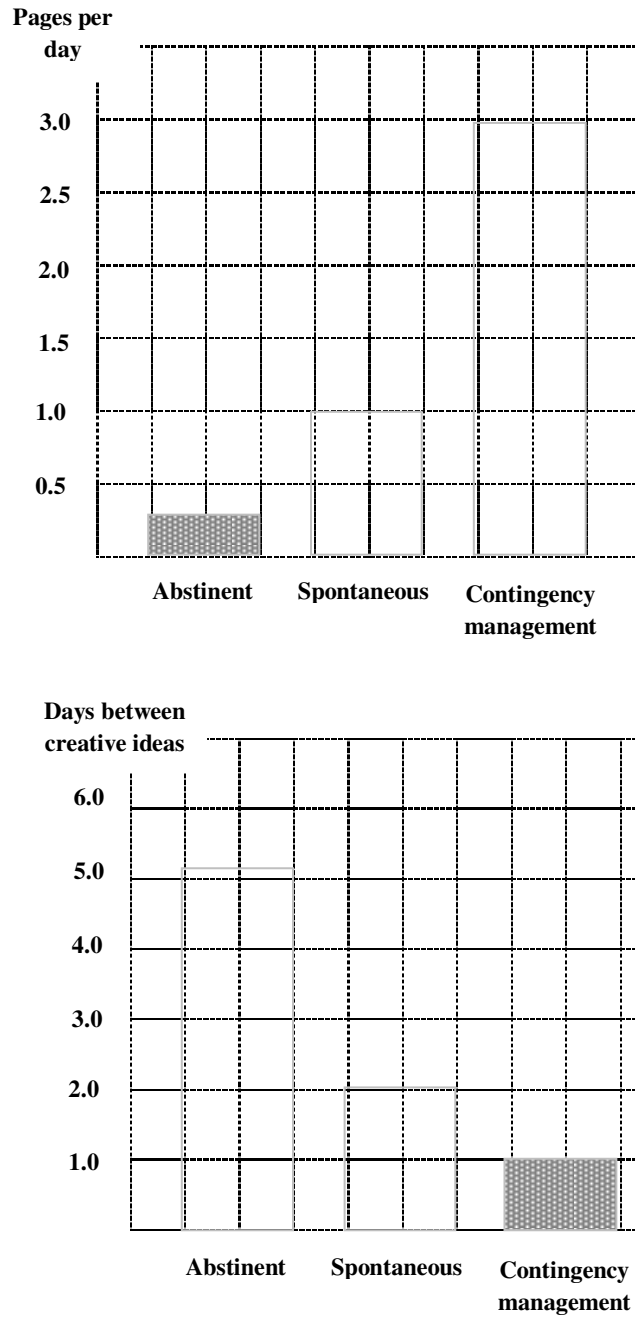


Figure 2.4 - Effects of Different Writing Strategies (Boice, 1990)

(a) The Number of Pages Written per Day

(b) The Modal Number of Days between Creative Writing Ideas

- **Barrier 3 - Time planning and managing: “I cannot find enough time to write; I would write more if I could just find big blocks of time...”**

This barrier is specious, just like the belief that people use only 10% of their brains for example. Like most false beliefs, this barrier persists because it is comforting; it is reassuring to believe that circumstances are against the student and that he would write if only his schedule had a few more big chunks of time to devote to writing.

Why this barrier is specious? The key lies in the word find. When the student endorses this barrier, he thinks that writing time is lurking somewhere and he will never write. In fact, finding time is a destructive way of thinking about writing.

Instead of finding time to write, the student can make a schedule and stick to it, so it is that simple. Right now, he begins to think about hours that are generally free, indeed he begins to think about the writing schedule that he want to have, what is known as art of time planning and managing because each person will have a different set of good times for writing, given his other commitments: The secret is then the regularity, not the number hours, but most students use a wasteful and unproductive strategies called binge writing because after intending to write, they finally devote a day per week to nothing but writing. This is not the case because the student is required to plan a regular time for writing after he must manage this allocating time according to his engagements in order to be more productive and avoid to be dogmatic about writing only within this time.

- **Barrier 4 - Using technological tools: “To write easily I need appropriate space as advanced software or hardware...”**

Unproductive students often bemoan the lack of their own space to write, such as in laboratory or library room where they can check more specific books and guidelines and benefit from the use of appropriate instructional softwares and tools. There, they can also have a fast Internet access that helps them browsing the latest issues of research and download different articles when writing.

This view can contradict what *Saroyan* had formerly said: “*In order to write, all a man needs is paper and a pencil*”, he believed on that equipments will never help students to write, only making a schedule and sticking to it will make him a productive writer, because today technologies are involved in developing research works’ credibility and significance and become the core of writing processes through integrating various computer softwares and tools such as word processing programs

that identify words and correct automatically misspellings, electronic dictionaries and encyclopaedias, and on-line instructional guidelines...etc. Making use of technologies when writing academic paper becomes then a vital action, just as educational technology have recently been approached as an opportunity to develop academic writing processes with each technological shift and each new software or hardware.

Generally, the difficulties associated with academic writing are primarily those that haunt the many creative activities that have become highly “transaction-based” in organizational settings. The rewards associated with productive academic writing, and the sanctions associated with a lack of it, increasingly form a backdrop to academic life that is often experienced as stressful and threatening. Writing in fact can be driven by a negative ethic and one that is linked to a deficiency model of writing development contrary to the interactive writing model (*Barry and Clark, 2002*). In reality, positive writing environments can enhance the possibilities associated with sharing ideas, collaborating, and research that consequently re-frame the nature of academic writing. For many, academic writing has become a thorn in the side of the academy, instead of the glue that holds everyone together. It can be argued that the emergence of the new public management and the managerialist processes with which corporate values have been implemented has prevented academic writing from being a process through which learning and scholarship are nourished, and through which positive dialogue within and between disciplines is initiated and sustained.

Finally, it is still possible for academic writing to represent a route through which teaching, learning and research in universities can be more meaningfully united. Re-conceiving writing in more positive and collaborative ways will certainly offer important solutions to many of the problems that haunt contemporary university settings as well as an effective set of implementable interventions that could help to give rise to the development and sustenance of healthier approaches to writing.

Chapter Three: English Academic Writing Specifications at Saida University

3.1. Introduction

Today, one of the most important developments in English academic language in the Algerian university has been concerned with the non-EFL students who need to be competent in English academic writing strategies in particular, for the sake of pursuing their specialized studies, especially in the field of science and technology. English academic writing should then meet the specific English language needs of students of science and technology when designing their specialized research papers. Therefore, the objective of this study is to realize a research which attempts to investigate the major difficulties involved by post-graduate students of science and technology especially when editing academic research papers in order to suggest adequate solutions taking into account as a sample of study the PhD students of Electronics Department at Saida University. The final chapter presents with detail:

- Assessment of English academic writing difficulties of post-graduate students of Electronics department at Saida University: Questionnaire description and data interpretations;
- Main suggestions and recommendations.

3.2. Assessment of English Academic Writing difficulties at Saida University: Questionnaire for Electronic PhD Students

This research work aims at investigating English academic writing difficulties of PhD students of Electronics department at Saida University who have answered to a detailed questionnaire divided into two main sections: Students' background information and students' English academic writing specifications and requirements. The questionnaire is tested on a sample of fifteen post-graduate students enrolled in different Doctorate academic levels. The questionnaire aims to evaluate to what extent students' prior English academic background and conceptions contribute in improving their academic writing productivity and effectiveness. The results obtained from the questionnaire are below with a special discussion and interpretation of data collected as follows:

3.2.1. Section I: Students' Background Information

1. Question Item 1: Students' academic level.

Academic Level	1 st Years Doctorate	2 nd Years Doctorate	3 rd Years Doctorate and Over	Total
Number	4	3	8	15
Percentage	26.67%	20.00%	53.33%	100%

Table 3.1 –Students' Academic Level

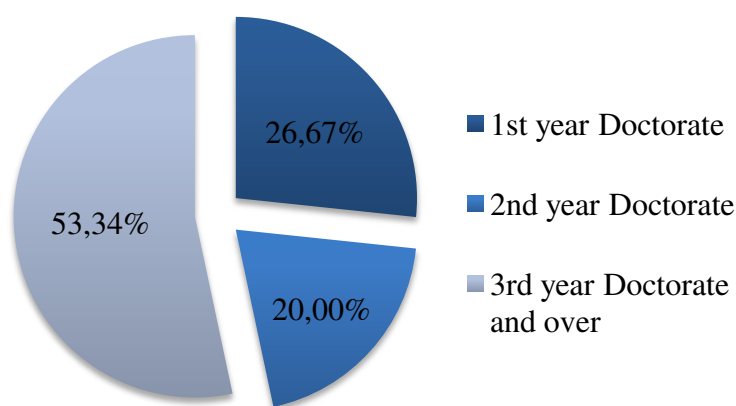


Figure 3.1 - Students' Academic Level

The Table and the Figure (3.1) show that PhD students participated in the study, are enrolled in different academic levels of Electronic Doctorate, it is clear that the respondents of the population of the study are of different positions and attitudes towards English academic writing. The number of 1st year Doctorate students is 4 representing 26.67%, it is nearly equal to the number of 2nd year Doctorate students which is 3 representing 20.00%, and more less than the number of 3rd year Doctorate students who are 8 forming 53.34% representing the half of the target population of the study as a vast majority. This may be due to the fact that students find some difficulties in getting the doctorate degree and completing their doctorate theses maybe due to some research obstacles or English academic writing barriers.

2. Question Item 2: Students' research progress.

Research Progress State	10 to 30 %	30 to 60 %	60 to 90 %	Total
Number	4	7	4	15
Percentage	26.67%	46.66%	26.67%	100%

Table 3.2 – Students' Research Progress

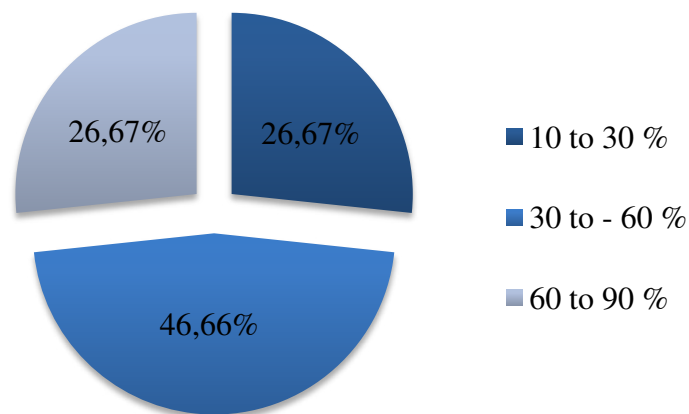


Figure 3.2 - Students' Research Progress

Doctorate research constitutes a very complicated task that requires for PhD students double competencies involving a strong knowledge of the specialized field as well as high English language skills especially writing skills to obtain up to date information from different authentic scientific texts delivered in English, succeed to summarize experimental findings, write specific reports and research papers, and keep abreast with up to date development in science and technology. The information derived from the Table and the Figure (3.2) indicates that 4 students, who are newly registered in the doctoral school and represent 26.67% of the target sample of study, need to provide more than 70% of the whole work to complete their research, while other 4 students representing also 26.67% get closer to complete their studies and get their doctorate degrees. On the other hand, 7 students representing 46.66% of the target population of the study, constituting nearly the half of the selected sample need more than 50% of efforts to attain their objectives from the research, they do not progress rapidly maybe because of different lacunas that hinder their studies like for example: The lack of sources exploring the topic, and the difficulty to

realize their experiments. Besides, they may face serious obstacles in terms of English academic writing including methodological and linguistic barriers.

3. Question Item 3: Students' English level.

Students' English Level	Weak	Average	Good	Total
Number	4	9	2	15
Percentage	26.67%	60.00%	13.33%	100%

Table 3.3 – Students' English Level

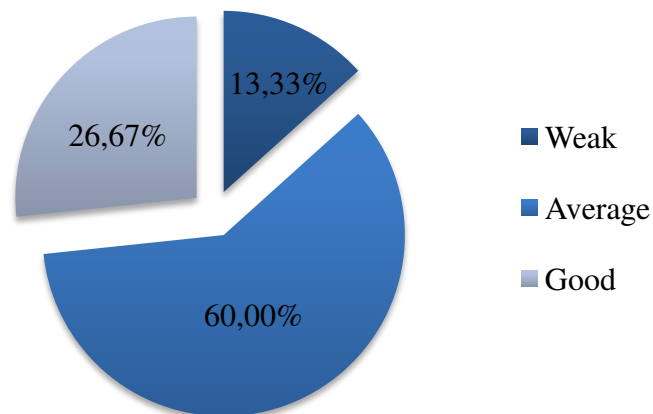


Figure 3.3 - Students' English Level

The Table and the Figure (3.3) show that just 4 students representing 26.67% of the 15 cases surveyed master English well maybe because they have undergone special training themselves or during an English academic cycle in the university, however 9 students representing 60% and more than the half of the target population, have an average level, and only 2 students representing 13.33% of the whole have a weak level in English. This may indicate that these PhD students had not benefit from important opportunities during their middle and higher schools to learn well English, or during their university maybe due to the less efficiency of technical English module designed for students of science and technology. This module may be less sufficient to improve students' English language capacities. The data may also demonstrate that students of such specializations do not give enough importance to English maybe because they ignore its academic value when they were graduates.

4. Question Item 4: Do you think that English is easy or difficult language?

Students' Attitudes Towards English	Easy	Difficult	Total
Number	11	4	15
Percentage	73.33%	26.67%	100%

Table 3.4 – Students' Overall Attitudes towards English Language

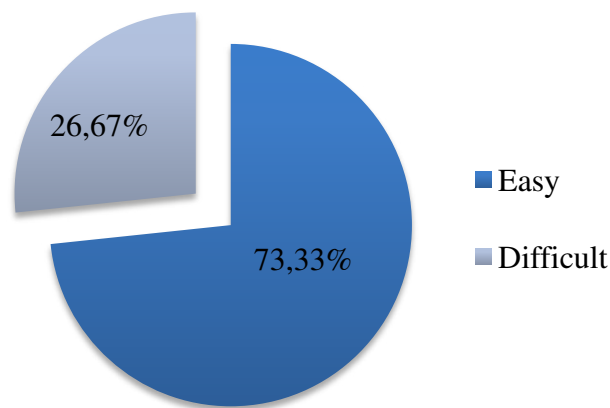


Figure 3.4 – Students' Overall Attitudes towards English Language

From the Table and the Figure (3.4), it is clearly demonstrated that the vast majority of PhD students of the target population, 11 representing 73.33% consider English as an easy language. However, just 4 students representing 26.67% think that English is a difficult language. It is astonishing that the majority of students believe on that English is an easy language despite their acceptable level causing several problems when using this language, in fact, even though they have good ideas, they always find difficulties to express themselves in writing or orally (from the discussion of data) maybe because they studied in French that do not make them more familiar with English.

The data collected from the question three and four, implies that there is a lack of students' motivation towards learning English maybe because the teaching policy of scientific and technological fields which uses French language, or due to the restricted technical English courses designed for such students that lack of solid knowledge in linguistics, grammar, and phonetics. This suggests a good review of syllabus and methods

considered to teach technical English module focusing on enhancing English academic reading and writing processes in a way appropriate to the scientific needs.

5. Question Item 5: Do you use English for academic objectives or communication?

Students' English Usage	Often	Sometimes	Rarely	Total
Number	0	3	12	15
Percentage	0%	20.00%	80.00%	100%

Table 3.5 – Students' English Usage

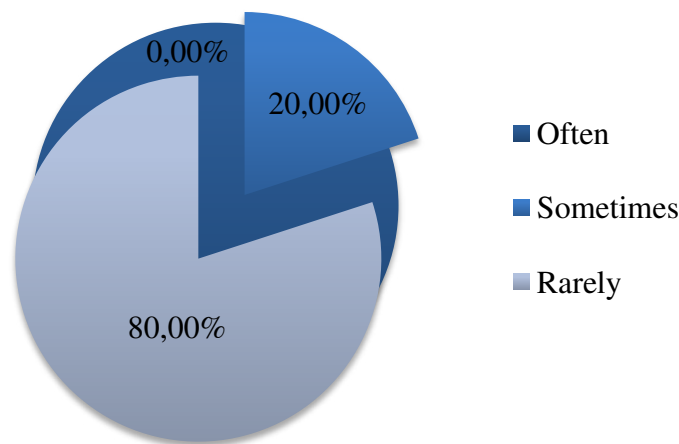
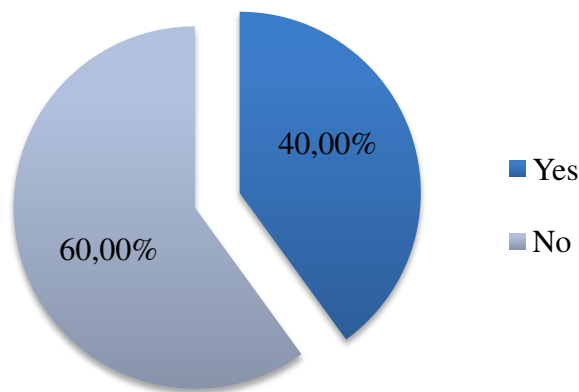


Figure 3.5 - Students' English Usage

The Table and the Figure (3.5) indicate that the majority of the respondents, 12 students representing 80.00% of the sample of the study, rarely use English to communicate or for academic objectives, whereas just 3 students representing 20.00% use it sometimes. This may be because students prefer to use French which represents the language of science and technology in the Algerian university. Unfortunately, this will not help students to build a solid English language background maybe because they focus only on English module already studied in their graduation that can promote their understanding of English but remains always insufficient for them for a good mastery, hence it is necessary that students use English often and compete to develop their acquisition in English.

6. Question Item 6: Did you follow a special training in English language?

Q ₆	Yes	No	Total
Number	6	9	15
Percentage	40.00%	60.00%	100%

Table 3.6 – Students’ Special English Skills**Figure 3.6 – Students’ Special English Skills**

From the above Table and Figure (3.6), it is demonstrated that 6 students representing 40.00% have already followed training in English language, however 9 students representing 60% have not received any training in English language apart from technical English module already studied at the university. Just two students have followed a special training in English language. The first student is enrolled in English department, he benefits from learning a diversity of English modules such as English for Specific Purposes which presents a particular discipline including various subjects like English for Academic Purposes, and English for Science and Technology (EST), Research Methodology (RM), Oral Expression (OE), Writing Expression (WE), Reading Comprehension (RC), etc, which constitute fundamental disciplines, and other interesting educational and didactic modules. The second student has already followed a special training in English for Science and Technology during his Magister degree because he was enrolled in an Egyptian university which uses English as fundamental language particularly for scientific and technological fields. The remaining students have simply

followed a general training during their university studies (graduation and post-graduation). This implies that it is necessary for the university to integrate special trainings in form of internships, or seminars, or organize partnerships between Electronics department (in general, all departments of Technology and Science faculty) and English department to invite ESP teachers to teach students and arrange academic trainings that help to systematically improve students' English knowledge.

3.2.2. Section II: Students' English Academic Writing Specifications and Requirements

1. **Question Item 1:** In your opinion, is it necessary to consider English as the language of scientific research, and suggest it as a main language for editing research papers?

Q ₁	Yes	No	Total
Number	12	3	15
Percentage	80.00%	20.00%	100%

Table 3.7 – Students' Opinion about Considering English as a main Language for Scientific Research

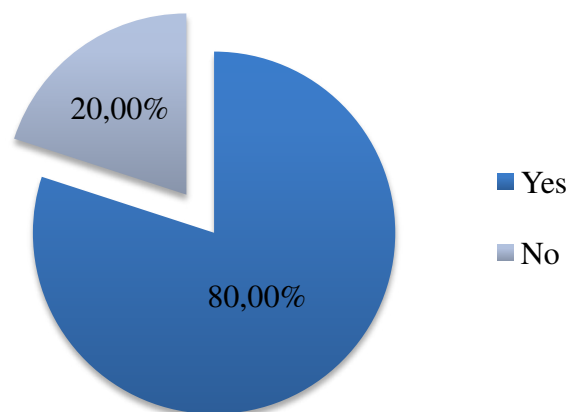


Figure 3.7 – Students' Opinion about Considering English as a main Language for Scientific Research

The information derived from the Table and the Figure (3.7), clearly indicates that the majority of the sample members, 12 students representing 80.00% think that English constitutes the fundamental language of scientific research, and the main instrument for editing research papers. However, just 3 students representing 20.00% disagree with this

opinion maybe because they find strict difficulties in practicing English language, likewise they may prefer to use other languages they well master like French. The majority of students who assert that English is the suitable language especially for scientific research, believe on the unprecedented expansion caused in technological fields from the early 1960's that created a unified world and generated a demand for an international language where English language became the universal language needed for all studies, not for the pleasure or prestige of knowing the language, but because English present the key to the international currencies of technology and science. These students consider English a useful means to achieve technological advancements, and consolidate the opening of the higher education system to English language rather than traditional modes limited on French language. Students become in fact more aware of the value of English during their post-graduation (contrary to the graduation where they ignored English) maybe because they begin to draw its academic importance, that makes them motivated to attend ESP classes and learn English.

2. Question Item 2: In your opinion, to advance in your research should you be more excellent in English reading skills, English writing skills, or both?

Q ₂	English Reading Skills	English Writing Skills	Both	Total
Number	0	0	15	15
Percentage	0%	0%	100.00%	100%

Table 3.8 – Students' English Skills Requirements

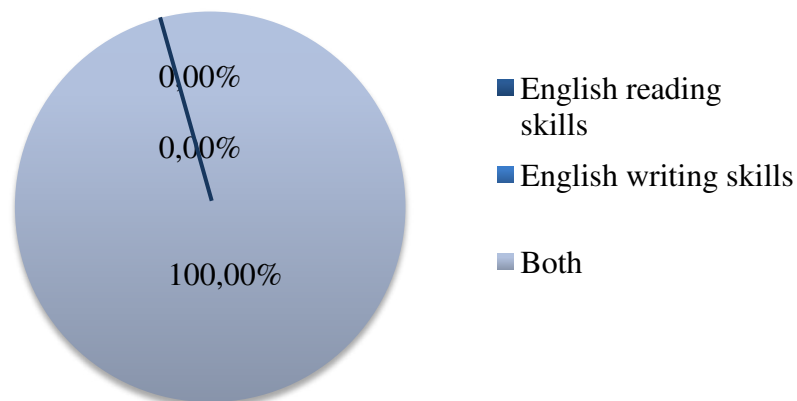


Figure 3.8 – Students' English Skills Requirements

The Table and the Figure (3.8) show that the totality of students, 15 representing 100.00% of the population of the study think that they need to ameliorate both English reading and writing skills to advance more in their research, and none of them favours one relative to the other. The data implies that students are very aware about their English language needs which quickly help them achieving high results when they want to develop their English language skills according to the technical and scientific requirements. This choice is beyond doubt that the quality of different English skills needed for PhD students should be improved into account the same effort to enhance both reading and writing competencies as they complement each other in terms of scientific research.

3. Question Item 3: Do you think that technical English module (already studied during your graduation) was enough efficient to improve your English language competencies or not?

Technical English Module is	Efficient	Less Efficient	Total
Number	5	10	15
Percentage	30.00%	70.00%	100%

Table 3.9 – Students’ Attitudes towards Technical English Module Efficiency

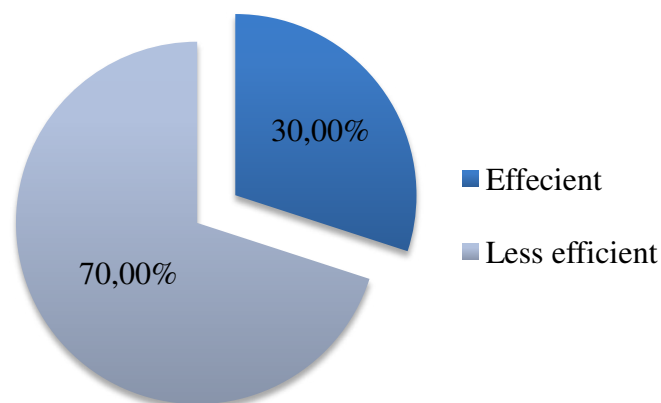


Figure 3.9 – Students’ Attitudes towards Technical English Module Efficiency

This question aims at evaluating technical English module efficiency. The data derived from the Table and the Figure (3.9) demonstrate that only 5 students who represent 30.00% of the target population of study think that technical English module was efficient.

studied during their graduation was enough efficient to improve their English language competencies, maybe because they have a considerable background in English language maybe because they have followed another training before or during their academic studies. In fact, this module may help them to strengthen their previous linguistic knowledge in English language. However, 10 students representing 70.00% agree that technical English module was less efficient to make them more motivated to learn English; this may be because of the traditional methodology applied in teaching this module where teachers focus only on text study and give students direct questions about synonym, antonym, conjugation, singular and plural form, and ignore developing the students' critical thinking regarding how to analyze or write a scientific research paper. This will not encourage students to exercise more efforts to learn English, and make them unaware of difficulties which may eventually affect their acquisition.

4. Question Item 4: Do you master English academic writing skills necessary for your research?

Q ₃	Yes	No	Total
Number	4	11	15
Percentage	26.67%	73.33%	100%

Table 3.10 – Students' Practicing EAW Skills

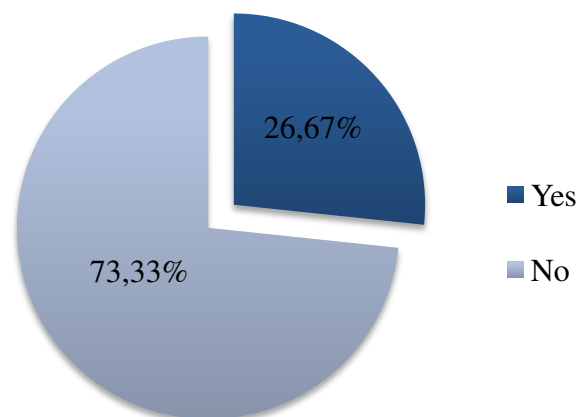


Figure 3.10 - Students' Practicing EAW Skills

From the Table and the Figure (3.10), it clear that almost students, 11 representing 73.33% of the target sample find a serious difficulty in mastering English academic writing skills when preparing their research papers, while just 4 students representing 26.67%

practice well English academic writing skills, this may be due to their excellent experience they have already developed during their studies or training. The remaining respondents face important barriers when editing research paper in English that require a double effort in developing their language capacities focusing on both EGP and EAP approaches.

5. Question Item 5: Do you think that English academic writing difficulties which face you when writing your scientific papers reside at the level of methodological aspect or linguistic aspect?

Q ₅	Methodological Aspect	Linguistic Aspect	Total
Number	12	10	22
Percentage	54.54%	45.46%	100%

Table 3.11 – Students’ EAW Difficulties

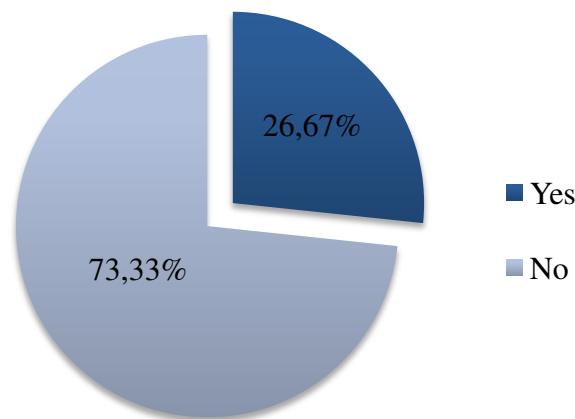


Figure 3.11 - Students’ EAW Difficulties

The Table and the Figure (3.11) show that students’ fall into two balanced groups in terms of their methodological and linguistic writing difficulties. The first group composed of 12 students representing 54.54% of the target population of the study find problems with methodological writing aspect, whereas the second group composed of 10 students representing 45.46% find problems with linguistic writing aspect. In fact, all students suggest that they need periodic trainings with teachers who are specialist in English for Academic Purposes to organize live or online conferences for example, and explain the topic of “what are the appropriate academic methodologies and linguistics techniques needed for a correct academic writing process”. In addition, students may need also

advanced didactic and complementary means such as special dictionaries and translators, effective writing guidelines, advanced word processing software...etc, to facilitate the writing task. Students can also join English Learning Centres that can provide a well-organized training, or why not exercise individual efforts to learn English academic writing related to scientific requirements, the fact that explains their will; the students should then be conscious of their linguistic problems, and motivated to learn English regardless of the means used to promote their language acquisition.

6. Question Item 6: Do you think that is also necessary to integrate effective EAP courses during the doctorate studies to help you to surpass your writing difficulties?

Q ₆	Yes	No	Total
Number	15	0	15
Percentage	100%	0%	100%

Table 3.12 – Students’ Attitudes towards Integrating EAP Courses

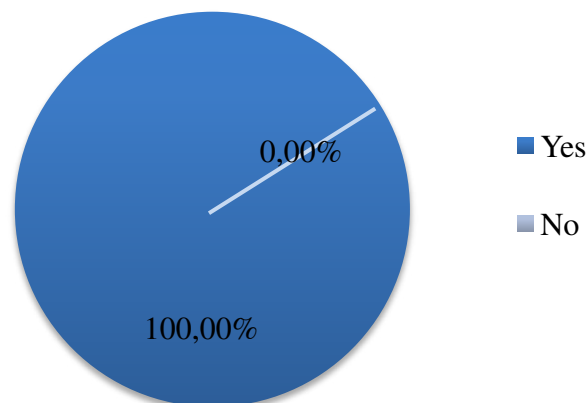


Figure 3.12 - Students’ Attitudes towards Integrating EAP Courses

From the Table and the Figure (3.12) it is favourably demonstrated that all PhD students representing 100% of the selected sample think that is necessary to plan effective EAP courses to the end of their doctorate studies. They think that this will advantageously help them compensate their English language shortcoming and surpass all writing difficulties. It is clear that Electronic PhD agree that such strategy may allow them to benefit from great opportunities through learning English academic writing processes in a holistic way, not in a discrete-point mode.

3.3. Suggestions and Recommendations

The data collected from the questionnaire demonstrates that PhD students of Electronics who participated in the study and represent a reliable sample of students of Science and Technology are of different positions towards English academic writing in terms of difficulty of delivering their research papers in English. In fact, they hardly achieve their goals because of serious problems linked firstly to their specialized field like for example the lack of sources, the difficulty to realize experiments, and studying in French. Secondly, they face numerous English academic writing difficulties at the level of both methodological and linguistic aspects. In fact, high English language skills especially in writing are deeply needed for PhD students of Electronics to keep abreast of technological developments, and succeed in their scientific works. The findings have shown that the majority of students consider English as an easy language and main instrument of scientific research. They are so motivated to look for special trainings, and organize partnerships with ESP teachers (trainers) to enhance their English academic reading and writing appropriately to their scientific needs.

Designing EAP courses for PhD students of Electronics to update what they have already studied in technical English module can eventually constitute an effective tool for reinforcing their English writing competencies, and providing them with methodological ways and linguistic instruments necessary for editing correct scientific papers, besides reforming their remaining English academic writing shortcomings. In view of this importance, English for Academic Purposes becomes today the major subdivision of English for Specific Purposes that obviously puts a great emphasis on scientific English and selects appropriate methodological and linguistic aspects related to scientific and technological fields in order to cope with different knowledge requirements (Dorrity, 1983). Accordingly, *Hutchinson and Waters* (1987) assert strongly that EAP courses provide technology students with the language skills needed to cope with their contents. Contrary to all expectations, some problems may arise with some students who simply cannot keep up with the English academic writing techniques because they find their research in English instead of French so difficult, but the solution can be found in adjunct courses which can be offered to these students in addition to the regular EAP courses. The adjunct courses should be designed in such a way as to consider the students'

individual communicative and academic needs and can be offered on a group or individual basis as the case might be in each EAP program.

Finally, effective English academic writing can be reached when students are aware of their capabilities, potentials, and preferences in linking these claims with their English writing requirements. Students ought to acquire a specific set of competencies and get trained in latest English academic writing strategies through practising how to use academic vocabulary for more effective writing. EAP courses ought to be taught for PhD students of Electronics (PhD students of faculty of Science and Technology in general) should provide them with the appropriate academic vocabulary in addition to useful strategies of writing in English when preparing their research papers like for example (Swales, 1990):

- Simply translating texts into English generally with the help of computer programs.
- Lifting useful expressions from authentic English papers, combining them, adding some of your own and using them in your writing.
- Paying attention to the organization and language of English papers in the leading journals in your discipline.
- Learning how the key parts of the academic text are typically organized and structured.
- Relying on assistance of colleagues who master English.
- Being always eager to rewrite and revise believing that the best way of mastering or improving writing is to write as much as possible.
- Thinking that academic writing in English is a matter of synthesizing a whole from literature in the field and data sources.
- Studying English writing manuals or textbooks and following their recommendations.

General Conclusion

This research work aims to help students of scientific and technological specializations to learn about English academic writing difficulties and constraints, and know essential English academic writing features and keys needed for improving their writing competencies and achieving their academic success. The investigation was carried out at Electronics department of Saida University taking the case of PhD students to propose a significant perspective about effective English academic writing strategies. The study aimed at whether confirming or rejecting the hypothesis concerning the lack of the quality of English academic writing methodologies already used by PhD students of Electronics.

The data analysis revealed the positive PhD students' attitudes towards the usefulness of EAP courses in providing them with the relevant techniques needed to write productively and clear the ambiguity found in their knowledge about how to balance different academic writing methodologies. In fact, designing EAP courses for PhD students of Electronics to enhance their writing constitutes a crucial solution that requires taking into consideration two major angles: The first angle is students' requirements analysis, ESP teachers (or ESP trainers) must focus on PhD students' academic needs basing on the distinctive features of technical English according to two main steps. The first step is to determine the PhD students' needs in terms of communicative functions to be carried out using the target language and the second step is to decide on the strategy to be followed during the preparation of the syllabuses, these steps should be determined in collaboration with the content-subject teachers of Electronics. The second angle is ESP teachers' competence evolution, ESP teachers have to be experienced in teaching English as a language in addition to be aware about scientific or technical contents, and academic vocabulary necessary to such specializations (*Dorrity, 1983*).

Finally, English academic writing is a challenging task for PhD students of Electronics that requires specific skills, and suited writing approaches. PhD students in fact have to do considerable effort to reach a reliable writing level through learning productive English academic writing strategies in order to succeed in their research works. The present work cannot give a one-for-all solution to the problem, but hopefully aims making of writing a fruitful practice and helping PhD students to become more effective writers.

Appendixes

Template of the Questionnaire Designed for PhD Students of Electronics of Saida University: Original French Version

Thème : Les Difficultés de l'écriture Académique en Anglais: Une Perspective pour l'Étudiant. Le Cas des Doctorants Inscrits au Département d'Électronique à l'Université de Saida.

Nous avons pour objectif de faire une étude évaluative concernant le niveau académique en Anglais des doctorants inscrits au département d'électronique à l'université de Saida, qui sont demandés par publier des articles de recherche en anglais dans des journaux ou des conférences scientifiques nationaux ou internationaux afin d'évoluer leurs compétences linguistiques et les faire adaptés à la recherche scientifique. Dans ce cadre, nous proposons aux doctorants de répondre au questionnaire suivant par cocher à la case indiquant la réponse appropriée.

Section I : Informations Personnelles sur les Doctorants

1. Vous êtes un doctorant inscrit en :
1^{ère} année - 2^{ème} année - 3^{ème} année et plus
2. Quel votre état d'avancement ?
10 à 30 % - 30 à 60 % - 60 à 90 %
3. Comment jugez-vous votre niveau en Anglais ?
Bien - Moyen - Faible
4. Pensez-vous que l'anglais est une langue ?
Facile - Difficile
5. Utilisez-vous l'anglais pour des objectifs académiques ou pour communiquer?
Fréquemment - Parfois - Rarement
6. Avez-vous déjà suivre une formation spéciale en langue anglaise ?
Oui - Indiquer le type de formation :
Non

Section II: Les Difficultés en Ecriture Anglaise Académiques des Doctorants

1. A votre avis, est-il nécessaire d'exiger l'Anglais comme langue de rédaction des articles scientifiques ainsi de la considérer comme une langue utile pour recherche scientifique ?

Oui - Non - Expliquez pourquoi :

2. A votre avis, pour avancer dans votre recherche devez-vous être excellent en ?

Lecture beaucoup plus - Ecriture beaucoup plus - Les deux

3. Pensez-vous que la formation en Anglais dont avez-vous suivi durant votre université (Module Anglais Technique) vous a aidé à améliorer vos compétences en langue anglaise?

Oui - Non

4. Arrivez-vous à maîtriser les techniques d'écriture académique anglaise nécessaires pour votre recherche ?

Oui - Non

5. Pensez-vous que les difficultés en écriture académique anglaise causées lorsque vous rédigez vos rapports scientifiques se résident au niveau de la :

a) Méthodologie ? Oui - Non b) Linguistique ? Oui - Non

6. Pensez-vous qu'il est également nécessaire d'intégrer des cours d'Anglais pour Objectifs Académiques (AOA ou AST) pendant vos études de doctorat, vous aidera à dépasser vos difficultés d'écriture?

Oui - Non - Expliquez pourquoi:

A la fin, que proposez-vous comme solutions pour améliorer votre niveau d'écriture académique anglaise pour être qualifié à compléter votre recherche scientifique ?

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Merci pour votre collaboration

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